

1882.



BOROUGH OF SUNDERLAND.

NINTH ANNUAL REPORT

ON THE

HEALTH AND SANITARY CONDITION
OF SUNDERLAND.

ALFRED EDWIN HARRIS,

MEDICAL OFFICER OF HEALTH AND BOROUGH ANALYST.

SUNDERLAND :

THOMAS HUNTLEY, PRINTER, 18, NILE STREET.

1883.

BOROUGH OF SUNDERLAND.

HEALTH COMMITTEE.

Chairman :

COUNCILLOR RICKABY.

Vice-Chairman :

COUNCILLOR STANSFIELD RICHARDSON.

ALDERMAN BELL.	COUNCILLOR FAIRLESS.
„ PRESTON.	„ HANSON.
„ STOREY, M.P.	„ JOHNSTON.
COUNCILLOR ALCOCK.	„ LAWSON.
„ ARMITAGE.	„ RICHARDSON, E.
„ BRUCE.	„ RUDLAND.
„ CAMERON, R.	„ SMITH, M.D., R. A.
„ COATES.	„ STILES.
„ CROSSBY.	„ THOMPSON.
„ DOUGLAS, M.	„ WADDLE.
„ ERRINGTON.	

Meetings every alternate Thursday, at 7.30 p.m.

I N D E X .

	Page
Death-rates since 1810	6
Mortality Rates in the Four Quarters..	7
Estimated Population	8
Births	9
Deaths	9
Uncertified Deaths	11
Mortality in Registration Districts	12
Zymotic Diseases	14
Zymotic Diseases in Districts	15
Enteric Fever	16
Typhus Fever	19
Smallpox	24
Measles .. .. .	..25-41
Scarlet Fever .. .. .	..29-42
Constitutional Diseases	33
Phthisis	33
Scrofula	33
Rickets	33
Local Diseases	34
Nervous System	34
Circulatory System	35
Respiratory System	35
Digestive System	36
Urinary System	36
Reproductive System	36
Infantile Mortality	37
Diarrhœa	39
Whooping Cough.. .. .	42
Convulsions	43
Prevention of Disease	44
Disinfection	49
Proposed Act of Parliament	50
House of Recovery	51
Sanitary Report	61
Food Adulterations	69



REPORT, 1882.

IN compliance with the general order of the Local Government 1882 REPORT

Board, I herewith submit, for the information of the Board, and for the consideration of the Urban Sanitary Authority, the NINTH ANNUAL REPORT of the Medical Officer of Health on the Health and Sanitary condition of Sunderland.

I regret that the heavy demands on my time during the first quarter of this year, (1883) owing to the large amount of illness in the Borough, rendered it impossible for me to devote time to its preparation without neglecting other important and pressing duties, and without injury to the Borough.

In the Annual Report for 1881 I was able to congratulate the Sanitary Authority on the small mortality-rate—a rate which, in the health history of the Borough, has only been attained three times, namely—in 1861, when it was 20·4 per 1,000 inhabitants; 1870, when it was 20·9; and in 1876, when it was 20·8.

Increased
Mortality.

In 1882, however, the bright hopes that the previous year had raised were rudely dissipated, as the year advanced, by an increasing rate, so that the weekly returns, issued by the Health Department, were eagerly looked for, and something very near a panic seized persons, who were not naturally prone to give way to their fears. This was hardly to be wondered at, when from August to December, the weekly death-rate had been above 30 per 1,000 no less than fourteen times, while on one occasion it reached the altogether phenomenal figure of 47·8. Notwithstanding these high rates, the total mortality for the year was 26·5 per 1,000 of the estimated population. From the annexed table, which I presented in a report to the Health Committee on December 5th, 1881, it will be noticed that at least five times during the last twenty years the rate was above that of 1882.

1882 REPORT. The death-rate of the Borough in 1810, calculating on the fact that there were 400 burials in the year, was at the rate of 32·5 per 1,000 inhabitants. The years 1821 and 1831 are calculated on a similar basis, and consequently the rate will be less than it really was in these years, as it is reasonable to suppose that some persons were buried outside the town.

The death-rates, together with the deaths in Sunderland from 1810 to the present time, are given below—

Years.	Deaths.	Death-rate	Years.	Deaths.	Death-rate
1810 ..	400	.. 32·5	1865 ..	2,396	.. 23·3
1821 ..	408	.. 27·7	1866 ..	2,556	.. 28·4
1831 ..	479	.. 28·0	1867 ..	2,145	.. 23·4
1841 ..	1,512	.. 26·8	1868 ..	2,481	.. 26·6
1846 ..	1,774	.. 31·6	1869 ..	2,135	.. 22·5
1851 ..	1,795	equal to an average rate of 26·0	1870 ..	2,026	.. 20·9
1852 ..	1,919		1871 ..	3,966	.. 36·4
1853 ..	2,069		1872 ..	2,702	.. 26·9
1854 ..	2,209		1873 ..	2,341	.. 22·9
1855 ..	1,909		1874 ..	2,455	.. 23·4
1856 ..	2,130		1875 ..	2,385	.. 22·5
1857 ..	2,146		1876 ..	2,262	.. 21·6
1858 ..	2,040		1877 ..	2,487	.. 22·7
1859 ..	2,040	.. 20·4	1878 ..	2,864	.. 25·8
1860 ..	1,820		1879 ..	2,507	.. 22·2
1861 ..	1,879		1880 ..	2,901	.. 25·2
1862 ..	2,152		1881 ..	2,436	.. 20·8
1863 ..	2,818		1882 ..	3,146	.. 26·4
1864 ..	2,264	.. 24·1			

The above death-rates in Sunderland, therefore, prove that despite its natural advantages, the town has not been invariably in the healthy condition we could expect.

Now, it is a popular belief in Sunderland that the death-rate of the Borough has in past years been always very low, and that the normal death-rate has been 18·0, 19·0, or 20·0 per 1,000 inhabitants. It was to prove the fallacy of this statement that I prepared the above table. No doubt on many occasions the weekly mortality rates were very low, and these rates were possibly remembered, while the high rates were forgotten. Indeed, it would not be surprising to find a person saying in a few years that he recollected when the death-rate was thirteen or fourteen, because on two occasions during the year, viz., the weeks ending June 3rd and July 1st, the rates reached the unusually low figure of 14·9 and 13·1.

I trust, however, that by permanently placing on record the death-rates for the last seventy years, the public will be able to form a correct idea of the healthiness of their Borough in past years.

There are few towns which possess so many natural advantages for good drainage as Sunderland, and few also possess so good a Geological formation on which to build. According to Mr. Robert Rawlinson's Report on Sunderland, (1857) "It stands upon magnesian limestone formation, which consists of upper laminated limestone, containing fossils, and in a descending order, gypsum, red and bluish white marls, magnesian limestone with fossils, marl, slate, and remains of imbedded fishes, resting upon a liver-red sandstone, containing coal plants, the whole system resting upon the carboniferous system." . . .

The water supply is copious, good in quality, but of somewhat excessive hardness. It is very right to add that to this circumstance no disease has ever been attributed, whereas Rickets is almost known in the Borough.

Nature has therefore abundantly favoured Sunderland, and it only remains for the Urban Authority to pursue the course they have for the last few years followed, in steadily carrying out sanitary improvements wherever they are required.

The following were the mortality returns in each of the four quarters of the year:—

The Mortality
Rates in the
Four Quarters.

Quarter.		Deaths.		Death-rate.
1st	....	686	....	23·1
2nd	....	659	....	22·2
3rd	....	840	....	28·3
4th	....	964	....	32·5

This table shows that even in the early quarters of the year the mortality without any special cause was in excess of the average death-rate of the previous year.

It was not, however, until the 3rd quarter, towards the advent of the Summer Diarrhoea season, that the death-rate assumed any serious proportions. Then Measles, of which up to this time there had been no cases in the Borough, made its appearance, and this disease, together with Diarrhoea, very greatly swelled the death-rate. Typhus Fever, also, became prevalent, Scarlet Fever increased, and Lung Diseases became unusually fatal.

I have prepared a chart, which is presented with this report, to shew the manner in which the various Zymotic diseases,

1882 REPORT. together with Respiratory diseases, and Consumption, influenced the mortality returns from week to week. It also gives the Meteorological observations for each week, from which can be ascertained the effect which the weather had on disease.

Estimated Population. The Registrar General estimated the population for the year to be 119,065. This number I have divided into the districts as follows :—

Sunderland East.....	9,522
Sunderland West	6,137
Bishopwearmouth North ..	36,773
Bishopwearmouth South ..	39,910
Monkwearmouth	26,723
	<hr/>
	119,065

Area of the Borough. The area of the Borough being 2,768 acres, there will consequently have been 43 persons living on each acre.

Population, Density, Births, Deaths, and Annual Birth and Death Rates in the Borough of Sunderiand, for the 12 Years—1871-1882.

Year.	Estimated Population.	Persons to an Acre.	Births.	Deaths.	Annual Rate per 1,000.	
					Births.	Deaths.
1871	98,797	35·6	3,996	3,601	40·4	36·4
1872	100,460	36·2	4,514	2,702	44·7	26·9
1873	102,152	36·9	4,615	2,341	45·1	22·9
1874	103,872	37·5	4,260	2,435	41·0	23·4
1875	105,621	38·1	4,509	2,385	42·7	22·5
1876	107,400	38·8	4,409	2,262	41·0	21·6
1877	109,201	39·4	4,499	2,487	41·2	22·7
1878	111,049	40·1	4,641	2,864	41·8	25·8
1879	112,918	40·8	4,486	2,507	39·7	22·2
1880	114,819	41·4	4,372	2,901	38·0	25·2
1881	116,753	42·1	4,587	2,436	39·2	20·8
1882	119,065	43·0	4,889	3,146	41·0	26·4

The above table has been revised from the last census returns, and the estimated populations for each year, together with the annual birth and death rates, re-calculated on the new figures. Similar calculations have been made throughout this report, when treating of the rates experienced from the various diseases.

During the year there were 4,889 births, of which 2,448 were males and 2,441 females. In the previous year the number of births was 4,587. There was, therefore, an increase of 302 in the recorded number of infants born. The birth-rate for the year was 41·2 per 1,000 inhabitants. The rate was 1·7 per 1,000 more than the rate for 1881, which was 39·5.

1882 REPORT.
Births.

In my last report I hazarded the opinion that the return of commercial prosperity, producing an increased amount of work, would enable the Artizan classes to marry in greater numbers, and that consequently there would be an increased birth-rate. This surmise has proved correct.

The birth-rates in the four quarters of the year were as follows :—

Birth-rates in
the Four
Quarters.

Quarter.		Births.		Birth-rate.
1st	....	1,241	....	41·8
2nd	....	1,271	....	42·8
3rd	....	1,197	....	40·4
4th	....	1,180	....	39·8
Whole Year ..		4,889		41·2

This rate was the highest in the large towns of England.

The birth-rate in each district was as follows :—

In the Districts.

Sunderland East.....	37·1
Sunderland West	39·5
Bishopwearmouth North	43·0
Bishopwearmouth South	38·4
Monkwearmouth.....	43·9

In Table II. of the Appendix will be found a statement of the births registered in each district for each quarter, specifying the sexes, and shewing the rates for 1881 and 1882.

The largest number of births was registered in the Bishopwearmouth South District, but it was only one more than the number registered in Bishopwearmouth North. The births were respectively 929 and 928.

The total number of deaths was 3,146, whereas in 1881 the number was only 2,436. There was, therefore, an increase in the mortality of 710.

Deaths.

The death-rate for the year was 26·4, which was an increase on 1881—an exceptional year—of 5·6 per 1,000 inhabitants.

1882 REPORT. For the purpose of comparing Sunderland with other large towns, I have prepared the following table :—

19 TOWNS.	Persons to an Acre.	Popula- tion.	Death-rate in the 4 Quarters.				Rate, 1882.	Deaths under 1 year to 1,000 Births.	Percentage to Total Deaths.			Zymotic Rate.	Birth- rate.
			1st.	2nd.	3rd.	4th.			Inquests.	Deaths in Public Institutions.	Uncerti- fied.		
28 Towns (average)	34.5	8,469,571	24.7	20.9	20.6	22.9	22.3	162	6.1	15.1	2.5	3.59	35.3
Brighton	46.5	109,595	29.2	21.8	17.8	18.1	21.7	153	4.0	13.6	1.6	4.20	30.6
Portsmouth	29.0	129,916	21.2	24.3	19.5	20.9	21.5	142	5.3	13.0	0.8	4.43	34.0
Norwich	11.9	88,821	23.9	19.0	18.4	21.0	20.6	168	5.4	9.2	2.5	2.46	33.9
Plymouth.....	53.4	74,449	24.4	20.1	18.6	21.7	21.2	155	5.8	8.4	1.5	2.14	32.2
Bristol	47.2	210,134	21.6	19.9	16.4	19.0	19.2	142	6.6	15.5	2.7	2.37	33.1
Wolverhampton...	22.6	76,756	25.4	22.6	21.0	20.5	22.4	160	5.7	15.4	6.5	3.28	36.1
Birmingham	48.6	408,532	21.4	19.5	21.0	21.9	20.9	167	8.5	14.5	1.4	3.48	36.6
Leicester	39.4	126,275	19.3	18.7	23.4	19.1	20.1	192	7.6	10.5	2.4	3.02	38.6
Nottingham	19.4	193,573	29.9	22.6	23.6	22.3	23.6	185	4.8	9.4	1.3	4.43	38.1
Liverpool....	107.6	560,377	26.5	25.2	25.1	29.3	26.5	178	4.9	17.4	4.7	4.41	36.7
Manchester	79.2	340,211	27.6	27.9	25.0	26.4	26.7	179	8.2	18.4	2.3	3.78	36.7
Salford	35.6	184,004	24.3	23.1	24.3	21.2	23.2	177	4.6	10.6	6.1	3.89	38.9
Oldham	24.8	115,572	26.7	24.1	21.8	26.0	24.6	180	2.7	7.8	6.5	2.80	34.9
Bradford	18.6	200,158	21.9	22.1	20.1	20.7	21.2	178	3.6	8.2	4.5	3.33	31.8
Leeds	14.6	315,988	22.4	21.1	22.9	26.5	23.2	179	5.9	8.6	3.5	3.51	36.1
Sheffield	14.8	290,516	22.9	19.8	21.1	23.0	21.7	165	3.7	8.6	4.7	2.87	37.4
Hull	43.7	158,814	21.4	20.9	25.6	24.9	23.2	165	3.3	10.0	5.5	4.98	36.6
SUNDERLAND	43.0	119,065	23.1	22.2	28.3	32.5	26.4	186	4.7	6.4	5.5	5.87	41.2
Newcastle	27.5	147,626	22.9	21.1	24.5	24.0	23.1	167	7.2	11.7	3.2	3.33	37.2

It is most unsatisfactory to note that Sunderland occupies a very unfavourable position in respect to uncertified deaths ; for whereas the average number of deaths so registered in the 28 large towns, including London, is only 2·5 per cent. of the total deaths, yet in Sunderland it amounts to 5½ per cent. These deaths occurred principally in Monkwearmouth, among the colliery population. Many of them were newly-born children, and were brought into the world by midwives, who, as a rule, in this kind of practice, are unskilled women. It is not always possible for the poorer classes to fee a medical man, and also pay a nurse. As the nurse is required for some time after the infant's birth, not only to look after the mother and child, but also to assist in the house, she is chosen in preference to the doctor. A great responsibility is therefore thrown on her, and very often she holds the lives of her patients in her hands. Being ignorant, she is, unfortunately, only a poor substitute for a doctor, and therefore now and again allows the frail life to slip away before she suspects there is any danger. Under such circumstances I would respectfully suggest that the medical men of the Borough would elect from among themselves an examining board, who would grant certificates of proficiency to all midwives who are willing to present themselves for examination. This would afford protection to a limited degree, as it would enable the poorer classes to judge between the good and the bad. I am strongly of opinion, however, that legislative interference is necessary to protect the poor against incompetent women.

1882 REPORT.

 Uncertified
Deaths.

Others of these uncertified deaths have been attended by unqualified assistants who here, as in other large towns, are employed by some medical men. This custom of employing unqualified persons is very unfair to the persons, who for the most part are poor, attended by them. When these people require skilled attendance it is only right and proper that they should obtain that for which they pay. There are plenty of qualified assistants to be had in England, and it therefore can not be that the men can not be obtained. If a medical man possess a practice which is too large for one person to manage, then it is only a matter of simple justice that the person whom he sends to look after the greatest treasure a man possesses—his life—should hold

1882 REPORT. a recognised qualification. If medical men will not do this, then they ought not to undertake that which they can not perform.

I am glad to think that the great bulk of the profession in Sunderland are opposed to the employment of unqualified assistants.

Infant Mortality The infantile mortality rate was also greater than in any other town except Leicester, where as a rule a high rate prevails. The rate in Sunderland was 18·6 per 1,000 infants born. In other words, more than 18½ per cent. of the infants died. The subject is treated more fully under Infant Mortality.

Mortality in Registration Districts. The increased mortality of the year was not confined to any one district, but was general to the whole Borough.

Sunderland East. The number of deaths in Sunderland East was 317, and the death-rate was 33·1 per 1,000 inhabitants. This was an increase of 134 in the number of deaths, and of 13·5 in the death-rate. The principal causes of this increase were the epidemic of Measles, (which concentrated its greatest force in this and the adjoining district of Sunderland West), Scarlet Fever, and Chest affections.

There were 42 deaths from Measles, 20 from Scarlet Fever, 51 from Bronchitis, and 25 from Pneumonia.

Sunderland West. 233 deaths were registered in Sunderland West, which was an increase of 63 on the previous year's return. The increase in the death-rate was 9·9, and the rate itself was 37·9 per 1,000 inhabitants. The principal items in the mortality were Measles, 27, Bronchitis, 38, and Pneumonia, 22, deaths.

There were 5 deaths from Typhus Fever, and 8 from Scarlet Fever. There were no deaths from Typhoid Fever.

Bishopwearmouth North. In Bishopwearmouth North District there were 927 deaths. These deaths are equal to a death-rate of 25·2. The number of deaths in 1881 was 790, and the death-rate 22·0.

In computing the returns for this district it must be recollected that two public institutions are situated in it, namely, the Union Workhouse and the House of Recovery.

In these institutions the deaths numbered 171, and the real death-rate of the district will be 20·8.

Many of the deaths in the Workhouse should not be counted in the returns of the Borough, because the patients came from outlying districts, such as Southwick, Ryhope, Hylton, and other places. 1882 REPORT.

From a return given me by Dr. Bruce Low, the Medical Officer to the Union Hospital, it appears that 165 persons died who should be properly referred to other districts.

There were 37 deaths from Measles, 31 from Scarlet Fever, 41 from Diarrhœa, 46 from Convulsions, 52 from Bronchitis, 39 from Pneumonia, and 34 from Debility.

The Registrar's returns for Bishopwearmouth South show that there were 928 deaths, which represent a mortality rate of 23·2 per 1,000 of the population. Bishopwearmth. South.

The Infirmary is situated in this district, and as there were 45 deaths in the institution, the real rate for this portion of the Borough was 22·1 per 1,000 inhabitants.

The mortality in the Monkwearmouth district was 741, of whom 231 were under one year old, 185 being between the ages of one and five, and 325 being over five years old. Monkwearmth.

The death-rate was 27·7 per 1,000 inhabitants, and shows an increase of 7·7 per 1,000 on the rate of 1881.

Measles, Scarlet Fever, Whooping Cough, Diarrhœa, Convulsions, and Bronchitis, caused respectively the deaths of 47, 65, 53, 36, 53, and 37 persons.

The following table gives the death-rates in the districts for the last two years, together with the death-rate from the seven principal Zymotics, and also the Infantile Mortality rate per 1,000 infants born.

District.	All Causes.		Zymotics.		Infant Mortality.	
	1881.	1882.	1881.	1882.	1881.	1882.
Sunderland East	19·6	33·1	1·18	8·79	177	240
Sunderland West	28·0	37·9	2·00	8·47	212	261
Bishopwearmouth North	22·0	25·2	4·5	4·94	126	164
Bishopwearmouth South	19·0	23·2	1·4	3·98	146	171
Monkwearmouth	21·0	27·7	3·8	8·15	142	194

ZYMOTIC DISEASES.

1882 REPORT. Last year, I was able to congratulate the Sanitary Authority on the large decrease in the number of deaths arising from zymotic diseases. I regret I cannot do so this year, for the prevalence of the heaviest epidemic of Measles Sunderland has ever known, together with a large amount of Typhus Fever, and even more than the usual amount of Scarlet Fever, raised the zymotic mortality rate from 2·6 per 1,000 inhabitants in 1881 to 5·87 in 1882. The average rate for Sunderland for the previous ten years (1872-81) was 4·35.

Zymotic Diseases.

The number of deaths in each year was as follows—

1872 .. 527	1875 .. 405	1878 .. 718	1881 .. 320
1873 .. 342	1876 .. 443	1879 .. 402	1882 .. 700
1874 .. 467	1877 .. 361	1880 .. 723	

These 700 deaths were classified as follows—

Smallpox	1	Typhoid Fever	42
Measles	191	Simple Continued Fever..	11
Scarlet Fever.....	168	Cholera (English).....	4
Diphtheria	18	Diarrhoea and Dysentery..	125
Whooping Cough.....	106		
Typhus Fever	34		700

Now, in the first and second quarters of the year the Borough held a favourable comparison with the twenty-eight great towns in England, and there was no indication that the town was about to enter on two of the most fatal quarterly periods it has ever known.

Zymotic Deaths in the Four Quarters.

The number of deaths from Zymotics registered in the four quarters were as follows :—1st quarter, 102 ; 2nd, 87 ; 3rd, 239 ; 4th, 274.

In the beginning of the third quarter there is, as a rule, an augmentation of the zymotic rate through the incidence of Summer Diarrhoea, and consequently its appearance at the usual season did not attract more than ordinary attention.

In the last week of the second quarter there occurred a death from Measles, which was followed in the second week of the third quarter by another death, and in the third week by a third death. From this time to the end of the year, Measles exercised

a very considerable influence in the zymotic death-rate, causing, 1882 REPORT.
on an average, between 7 and 8 deaths per week.

In the second week of the second quarter Typhus Fever also made its appearance in an epidemic form, having disappeared from the Borough for five weeks, and up to the end of the year it may be said to have never been absent.

A more detailed account of each disease will be found under its own heading.

The following is a summary of the zymotic deaths in Sunderland
East.
Sunderland East District:—Measles, 46; Scarlet Fever, 20; Diphtheria, 1; Whooping Cough, 7; Typhoid Fever, 3; Continued Fever, 1; and Diarrhœa, 6. The total number of deaths was 84, and the zymotic rate was 8·79. In 1881 the rate was only 1·18.

The total number of deaths in Sunderland West was 52, which Sunderland
West.
is equal to a death-rate, calculated on the estimated population, of 8·47 per 1,000 inhabitants. In the previous year the rate was 2·00.

These deaths were distributed as follows—

Measles	27	Typhus Fever	5
Scarlet Fever.....	8	Diarrhœa	5
Whooping Cough.....	7		

In Bishopwearmouth North there were 182 deaths, of which Bishopwearmth.
North.
the following is a summary.

Smallpox	1	Whooping Cough.....	24
Measles	37	Typhus Fever	21
Scarlet Fever.....	31	Typhoid Fever	19
Diphtheria	6	Simple Continued Fever..	2
Diarrhœa	41		

The death-rate in the district from these deaths was 4·94 per 1,000 inhabitants, which is only slightly in excess of the rate for 1881, when it was 4·5.

It must be remembered that the Union Fever Hospital is in this district, and of the large number of 21 deaths arising from Typhus Fever, no less than 17 occurred at this institution.

The zymotic deaths in the Bishopwearmouth South District Bishopwearmth.
South.
numbered 159, and influenced the death-rate by 3·98 per 1,000 inhabitants. This is the lowest rate in the five districts. The rate in 1881 was 1·4.

1882 REPORT. The deaths were caused by the following diseases—

Measles	34	Typhoid Fever	11
Scarlet Fever.....	44	Continued Fever	5
Diphtheria	6	Cholera (English).....	1
Whooping Cough.....	15	Diarrhœa	37
Typhus Fever	6		

Monkwearmth. The largest number of deaths registered in any one district was registered in Monkwearmouth, viz., 223. This, in proportion to the population, produced a rate of 8·15 per 1,000. In the previous year the rate was 3·8.

The deaths arose from the following zymotic diseases.

Measles	47	Typhoid Fever	9
Scarlet Fever.....	65	Continued Fever	3
Diphtheria	5	Cholera (Simple)	3
Whooping Cough.....	53	Diarrhœa	36
Typhus Fever	2		

The following table shews readily the number of deaths from the different zymotic diseases in each district, the total number of zymotic deaths, the death-rate, and also the same particulars for the whole Borough.

District.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough	Typhus Fever.	Typhoid Fever.	Continued Fever.	Cholera.	Diarrhœa.	Total.	Death-rate.
Sunderland East.....	..	46	20	1	7	..	3	1	..	6	84	8·79
Sunderland West ....	..	27	8	..	7	5	..	..	..	5	52	8·47
Bishopwearmth North	1	37	31	6	24	21	19	2	..	41	182	4·94
Bishopwearmth South	..	34	44	6	15	6	11	5	1	37	159	3·98
Monkwearmouth ....	..	47	65	5	53	2	9	3	3	36	223	8·15
Total	1	191	168	18	106	34	42	11	4	125	700	5·87

Enteric Fever During the year, every effort was made to trace the cause of all cases of Enteric Fever, as well as the other fevers, which came under the notice of the Health Department.

Special particulars were obtained about the date of the commencement and termination of the illness, and how it terminated. A description of the house was obtained, the water supply was noted; the manner in which the excrement was disposed was noticed, whether by midden privy, pail, or water closet. The drainage was examined, and if there was a water closet, whether it was ventilated or not, the sanitary condition of the ashpit was examined, and an examination made for nuisances generally.

The milk supply of the patient was enquired into, and search was made for the existence of any other cases in the neighbourhood.

If the sick person happened to be a child, then special enquiry was made about the Day and Sunday School attended.

There were in all 42 deaths registered from Enteric or Typhoid Fever, and, in addition, 26 additional non-fatal cases came under my notice. Of the cases that terminated fatally, fully one-half were known to the Inspector or myself before the death of the patient. This result was due to the kindness of many medical men of the Borough in giving information, and also to the intelligent manner in which Inspector McKay discharged his duties.

Among the causes of this fever the one most generally thought to be commonest is sewer gas, which finds its way into houses through the water closets. Now, during last year, especially in its latter half, very considerable outcry was made as to the condition of the sewers of the town, and some persons avowed their opinion openly that the condition of some of our sewers was the cause of the high mortality. I never shared in this opinion, although I believe, as every Sanitarian does, that it is most unsafe to have any derangement of the sewerage system. Indeed, I impressed this matter on the Health Committee on December 5th, when I said, "If any defects exist, the more speedily these defects are made good the better. There is no greater danger to the general health of the community than sewers or drains that will not get rid of their contents speedily. A sewer that contains a deposit is a dangerous nuisance, and should be quickly cleared."

1882 REPORT. Now, although some of the sewers were, and, I believe, still are, in an unsatisfactory condition, yet no cases of disease have been traced to this source. If it had been the cause of the high mortality, then it would be expected that Typhoid or Enteric Fever would have been prevalent in houses fitted with water closets or in some direct manner connected with the drains. But quite the contrary is the fact, for out of the 70 cases of this fever that came under my notice, in only six houses were there water closets, and even then in two instances only could the sewers be fairly suspected. In one of the six cases, the patient had come from the country a few days previously; in another instance the patient, a servant, never used the water closet in the house.

In one instance, however, the soil pipe leading from the closet was broken, and in another the water closet was in a cellar under the house. In these cases the specific poison of the disease may have arisen from the faulty connection.

Enteric Fever
in houses supplied
with pail closets.

In only one instance did this fever occur in houses supplied with pail closets. Too much, however, must not be made of this fact, because it must be recollected that there are only a thousand of these in the town. Nevertheless, if the deaths were equally proportioned there would have been less deaths among houses provided with pails, and, therefore, so far as it goes, it is an argument in favour of the tub system and the speedy removal of refuse from our houses. All the other cases occurred in buildings provided with middens.

Although every endeavour was made to trace the origin of the disease, yet in no instance was Enteric Fever known to have occurred in the house at any time previously. The origin of nearly all the cases was obscure. In some houses the middens were full, in a few out of repair, but, as a rule, they were in good condition.

The possibility of the fever having originated from the midden has been frequently before my mind, but as there was no previous history of fever in the house from which the Enteric Fever germ could arise, I have been forced to dismiss it from my mind as the cause. At the same time, however, the following questions have forced themselves on my mind.

1st. Is it possible that a type of Enteric Fever can exist of so mild a nature as to be unknown to the patient himself? 1882 REPORT.

2nd. Is it possible for the specific germ to be created *de novo*?

These are questions which I do not pretend to answer in the affirmative, although in no other way is it possible to account for many of the cases brought under my notice, the closest examination having failed to elicit satisfactory causes.

The greatest incidence, as is usual with Enteric Fever, was in September, October, and November.

Typhus Fever caused 34 deaths, in addition to which 72 cases came under my notice.

In the earlier months of the year the Borough was almost entirely free from the disease, but in the month of May it made its appearance among a family living in Dixon's Square, Monkwearmouth, and despite every precaution that could be adopted, the disease spread in a most remarkable manner through the immediate members of the family, and thence through a large number of their relatives. Indeed, the history of the spread of the disease through this family is interesting as shewing the susceptibility of relatives to the same disease, and also the danger of visiting fever patients.

On May 11th, information was sent me by a medical practitioner that Typhus Fever existed at 3, Dixon's Square, Monkwearmouth, in the family of a man named Patrick M——. On visiting the house I found the following five members ill:—Patrick M——, 56 years; Bernard M——, 21 years; Mary M——, 18 years; Elizabeth M——, 17 years, and Thomas M——, 13 years.

All these patients were removed the same day to the Union Fever Hospital, and I hoped that the disease was stamped out.

On May 14th, however, two other members of the family—Edward M——, 30 years, and his wife Elizabeth M——, the same age, residing at 120, Church Street, Monkwearmouth, were attacked, and they were also immediately removed to the Union

1882 REPORT. Hospital. These people contracted the Fever through attending
 Typhus Fever on their father, Patrick M——, and his children.
 Continued

Next day (May 15th) Inspector McKay, who kept the family under his constant supervision, found that Mrs. Anne M——, 50 years, the mother of the family, also living at 3, Dixon's Square, had been attacked, and she, too, was removed to the Hospital.

On May 27th, I received information that Typhus Fever existed at the Old Garrison, Bishopwearmouth, and on visiting the place found Mary K——, 19 years, suffering from the disease, and she was at once removed to the Hospital. On the sister of this woman being questioned as to the origin of the disease, and as to her knowledge of the M——'s, she denied knowing them. As they lived a long distance away from each other, my suspicions as to the disease coming from Dixon's Square, were disarmed.

However, (June 12th), two cases were reported from Smithson's Square, Monkwearmouth, which is not far from Dixon's Square, and I saw that two sisters, Alice K——, 21 years, (sister-in-law of Mary K——,) and her sister, Margaret M——17 years, had been stricken with Typhus.

The K——'s, it was then found, had quitted the Old Garrison, and made their home in an old house at Smithson's Square, so that they might be near their relatives, who were none other than the M——'s, of whom all knowledge had been denied, although the K——'s were two married daughters of Patrick M——. This discovery made it at once plain where the Fever in the Old Garrison had come from. Alice K—— and Margaret M—— were removed the same day to Hospital.

Soon afterwards (June 15th) Francis K——, 20 years, the husband of Mary K——, sickened, and he was removed to Hospital.

During the next fortnight there was no new fresh case ; but on July 1st, Margaret M——, (23), the niece, through marriage, of Patrick M——, was conveyed from 10, Dixon's Square, to Hospital, having caught the disease through contact with other members of the family.

Another of the K——'s (Patrick) was conveyed to Hospital on July 3rd, from 2, Smithson's Square. Then followed John M——, (14), a nephew of Patrick M——, on July 14th.

1882 REPORT
—
Typhus Fever
(continued.)

The houses in Smithson's Square requiring repairs, those of the K——'s and M——'s, who lived there, removed to Number's Garth, Bishopwearmouth. From a house in this street, Owen M——, aged 22, was removed on July 18th to Hospital. On the same day I received a notification from the District Registrar of the decease of James B——, 10 years' old, living at Pallion Road, from Typhus Fever. This lad was a cousin of the M——'s, and it was stated that he had been once or twice in their company.

All the members of the M—— and K—— families were attacked, with four exceptions, namely, Mary M——, (50), and three infant children of the K——'s, who, when their parents were stricken, were removed to the Union.

Now, all this disease originated from a lad, James M——, 7 years' old, who first contracted the Fever. It appears that he had had the disease in a mild form, and that no medical advice was sought, and the existence of the disease was therefore unknown. I can not help thinking that if he had been removed to Hospital, all the misery and deaths that resulted would never have occurred.

Table giving particulars of the M——. Family.

NAME.	AGE.	ADDRESS.	RELATIONSHIP.	DATE OF REMOVAL.	RESULT.
M. James.....	7	3, Dixon's Square ..	Son of Patrick M. ....	..	Recovered
„ Patrick	56	„ ..	Father.....	May 11th	„
„ Bernard	21	„ ..	Son of Patrick M.	„	„
„ Elizabeth....	17	„ ..	Daughter of Patrick M...	„	Died
„ Mary	18	„ ..	„ ..	„	Recovered
„ Ann	50	„ ..	Wife of Patrick M.	May 15th	Died
„ Edward.....	30	Church Street	Son of „	May 14th	„
„ Elizabeth....	30	„ ..	Wife of Edward M.	May 14th	Recovered
K. Mary	19	Old Garrison.....	Niece of Patrick M.	May 27th	„
„ Alice	21	Smithson's Square..	„	June 12th	„
M. Margaret	17	„ ..	„	„	„
K. Francis	20	„ ..	Husband of Mary K....	June 15th	„
M. Margaret	23	Dixon's Square	Niece of Patrick M.	July 1st	„
K. Patrick	22	Smithson's Square..	Husband of Alice K.	July 3rd	„
M. John	14	„ ..	Nephew of Patrick M. ..	July 10th.....	„
„ Owen	18	Number's Garth	„ ..	July 10th.....	Died
B. James	10	Pallion Road .....	„ ..	..	„

1882 REPORT.

Typhus Fever
(continued.)

Notwithstanding that so many cases of Fever had occurred in the M—— family, it was very satisfactory that the disease, for a long while, did not spread to anyone else. This, I believe, was entirely due to the fact that all persons living in the same house, or in the adjacent houses, were cautioned again and again to have no intercourse with them.

Unhappily, this did not last, for just about the time that the last of the M——'s was taken ill, a little girl, Margaret C—— 14 years' old, visited the former, caught the disease, and infected her father, mother, three brothers, and a sister.

A woman, a relative, caught the disease from these, and she died, a doctor not having seen her until shortly before her death. Her husband and two children had meanwhile been attacked, and they were removed to Hospital. The woman, who washed and coiffined her was also attacked, and died.

Nearly all these cases were discovered by Inspector McKay before medical assistance had been called, and it was he who generally was the first to insist on medical advice being obtained.

Fever at
Blue House
Grange.

A serious outbreak of Typhus Fever occurred at the Blue House Grange, Commercial Road, Hendon. Concerning it I reported as follows to the Health Committee :—

“The Fever seems to have first shown itself by attacking a woman named D——, who had just arrived in the locality with her husband, having previously had to endure considerable exposure to the weather. When information reached the Health Office, the patient was too ill for removal. Her husband then contracted the disease, and he was removed to Hospital. Unfortunately, before removal, he became delirious, and attempted to jump from the window. A neighbour named T——, was called in to restrain him, and in doing so caught the Fever. This fact was concealed from the Health Office for some time, so that when information was received (Sunday, Nov. 26th) the whole of his family (six in number) had been seized. They were removed immediately to the Union Hospital. On the same day it was found that a brother of the above-mentioned D—— and his son was attacked, having contracted the disease in visiting their relatives. They, too, were removed to the Union Hospital. Then a man, named W——, living in the same house as D——, was attacked; later on the S——'s, (six in number), were stricken, and removed to the same Hospital; and finally another family of T——'s, (five in number), were attacked, and these were also removed to the Union Hospital.

Intimate visiting was the cause of the spread of the disease in this locality.

The abodes of the attacked have been in each instance thoroughly fumigated, cleansed, and lime-washed.

All the bed clothes and bedding have been destroyed, or disinfected in the hot-air chamber.”

An isolated case of Fever occurred in Spring Garden Lane, in the early part of June, the person attacked having caught the disease while at work. From that date to October 2nd, no other case was known in the street; but at the latter date the wife of a lodging-house keeper was reported to be ill. The lodging-house was closed. On the 23rd of the same month, a man, in very poor circumstances, was attacked, the disease having been brought on through exposure to inclement weather, and on the 26th, his wife was also seized. Fever then disappeared from this street until Nov. 17th, when Dr. Dale reported two cases—a woman and her daughter—at No. 12, the former having contracted the disease at Southwick. On the 20th, two other daughters were removed. Two days later, a man was removed from No. 16, the disease having been caught from his uncle, living at No. 33, who, having been in poor circumstances, showed symptoms of the disease after a heavy wetting.

1882 REPORT.
—
Typhus in
Spring Garden
Lane.

Another member of the same family, reported on the 17th and 20th November, was attacked on the 29th, and two others on the 9th December, the infection having run through the family.

On December 6th, a woman was reported at No. 38, and it was found that she had been visiting some of the people in the street.

On December 30th, two cases were reported by Dr. Dale, at No. 33, and enquiry elicited the information that they had been infected by the person previous alluded to.

All the above cases were removed to the Union Hospital. From the above remarks about Typhus Fever it will be seen that nearly every case was the result of direct infection one from the other. Of course, the disease had a fruitful soil to work on, for, unfortunately, with few exceptions, the people were impoverished, some of drunken habits, and, in the cases of the children, they were poorly clad, poorly fed, and generally uncared for. Dirty homes, dirty clothes, and dirty persons were the rule. It is no wonder, then, that Typhus Fever, true to its habit, seized on them and laid them low.

1882 REPORT. Overcrowding was not found to be the cause of any of the disease, although in one instance it was found that too many persons occupied a room, and the Inspector of Nuisances had this rectified.

Smallpox. There was one death from Smallpox. This case occurred at the Union Hospital, whither the patient had been removed from the Rural District.

Eight cases, however, came under my notice. The streets in which they occurred will be found in the Appendix, page VI.

The date on which the disease was reported, and its origin, together with the place in which it was treated are given below.

Cases.	Date.	Origin.	Place of Treatment.
Case 1	March 6th	London.....	House of Recovery
„ 2	Oct. 3rd ..	A man from Newcastle	Union Hospital
„ 3	Oct. 17th ..	Gateshead	At Home
„ 4	„ „ ..	From Case 3	„
„ 5	„ „ ..	„	„
„ 6	„ „ ..	„	„
„ 7	Nov. 7th ..	Unknown.....	House of Recovery
„ 8	Nov. 18th..	Hylton	Union Hospital

Of the four cases treated at home, three were in the same house at North Bridge Street, and the fourth was at Dock Street. Everything was done to prevent the spread of the disease from these centres, and, happily, the measures adopted proved efficacious. I have to thank the people for the readiness with which they adopted my suggestions, notwithstanding that these caused a great deal of inconvenience.

I believe it is owing to this readiness, as well as to the efficient manner in which vaccination is carried out in the Borough that the town has been to the present spared an epidemic of the disease. This is all the more remarkable as in the neighbouring towns, notably Newcastle-on-Tyne and Seaham Harbour, the disease has been very prevalent.

Last year was notable for the heaviest epidemic of Measles the 1882 REPORT. Borough of Sunderland has probably ever known; and it was Measles. mainly owing to it that the death-rate was so high in the last two quarters of the year.

Last year, I emphasised the fact that this disease assumed a fatal form in alternate years, and this year I have again to draw attention to it.

For twelve years the mortality from Measles has been as follows :—

Years.	Deaths.	Years.	Deaths.
1871	.... 58	1877	.... 1
1872	.... 50	1878	.... 93
1873	.... 33	1879	.... 1
1874	.... 60	1880	.... 99
1875	.... 5	1881	.... 3
1876	.... 42	1882	.... 191

Thus it will be seen that in 1882 there were more than twice as many deaths as there were in any of the previous eleven years.

The number of deaths, and the death-rate in each quarter, were as follows :—

Quarter.	Deaths.	Death-rate.
1st	.... 0	.... 0·00
2nd	.... 1	.... 0·03
3rd	.... 46	.... 1·55
4th	.... 144	.... 4·85
Whole Year	191	.... 1·42

The epidemic may be said to have occurred altogether in the third and fourth quarters.

The disease appeared almost simultaneously in all parts of the Borough, although its greatest incidence was in Sunderland Parish, where no less than 93 children were attacked.

1882 REPORT. The following table will, however, give the number of deaths for each district, together with the ages at death.

Measles
(continued.)

District.	Under 1 year.	1 to 5 years.	Over 5 years.	All Ages.
Sunderland East	8	35	3	46
Sunderland West	3	21	3	27
Bishopwearmouth North	9	25	3	37
Bishopwearmouth South	7	25	2	34
Monkwearmouth	4	32	11	47
Whole Borough....	31	138	22	191

Although there were 191 deaths, yet fully eight hundred cases came to the knowledge of the Health Authority, of which the particulars were noted in six hundred. Considering that there is no compulsory notification of disease in the Borough, this is eminently satisfactory, and it shews what may be done in the case of an epidemic among children if the Board School Authorities will assist, as they did in this instance, the Health Authority in dealing with infectious diseases.

Measles, which began with one death in the last week of June, caused another in the second week of July, and four deaths in the first week of August. Then there was a diminished mortality for two weeks, and no deaths for two subsequent weeks, until in the week ending September 9th, the deaths rose to three, next week they increased to ten, and thence to the end of the year the mortality continued very heavy. The course of the disease, however, will be best seen on the Meteorological Chart.

Measles is, perhaps, of all infectious diseases, the one over which the least control can be exerted, because from the very moment it appears, it is extremely infectious. Consequently, before anything can be done to stay its spread, it has already attacked someone else. I have noticed this in a marked degree among the

numerous cases that came under my observation. I know of 1882 REPORT.
children who were only a few minutes in the same room with children, who showed symptoms later on, to have contracted the disease, although at the time the parents had not suspected Measles.

In reporting to the Health Committee on the prevalence of the disease in Sunderland Parish, I said :

“The Chief Inspector of Nuisances and myself have made an almost house to house visit in this locality. All the dwelling houses are occupied, but not overcrowded. There are, with one or two exceptions, no nuisances existing, but there is a general want of cleanliness exhibited on the part of the occupiers. In nearly every room where Measles was found, children were present, being allowed to go in and out without hindrance, and even in some cases to school. Mothers, with their children, were also found visiting those that were ill.

As regards school, it was found that a very large number of children attended the Moor School, and the mothers complained that the teachers were pressing them very hard to send their children to school, although aware that illness was in their houses. The teachers say that unless they have a doctor's certificate they can do nothing.”

It is only fair to state here that as soon as these matters were brought under the notice of the School Board, steps were at once taken to remedy it.

“The advisability of closing the Moor School has not been absent from my mind, but it is a question whether the children living in the neighbouring streets are less liable to infection from indiscriminately mixing with each other out of doors than they are when at school.

Instead of suggesting the closing of the school, I would recommend that the school authorities take the greatest care that no child who has illness at home is allowed to attend school.

If this is done, I think more good will result than from closing the school altogether. If the children attending the school had come from widely scattered districts the case would be different, for then the children would be widely separated when out of school and would be the means of carrying the disease broadcast, whereas in the present case, no matter whether it be in or out of school, they are all continually intermingling.”

In October, again, in reporting to the Health Committee concerning this same district, I wrote as follows :—

“The epidemic of Measles seems to have exerted its greatest energy in Sunderland Parish. This is an interesting fact, when it is recollected that in this very same district there have been very few deaths from Diarrhoea. This seems to indicate that, whatever influences may have been at work, it cannot have been dirt alone that has caused so much Diarrhoea. The district is a crowded one, the people are uncleanly in their habits, and the lanes are for the greater part back to back, and the neighbourhood is unwholesome. To these circumstances I attribute the rapid spread of Measles in the locality.

In addition to this state of affairs, it has been most regrettable to find during an almost house to house visitation in the locality that in many houses sinks are placed in the passages. It is now well known that water traps are not preventives of sewer gas passing from the drains, and for this reason I am of opinion that these ought to be removed, more

1882 REPORT. especially in a district where the tide seems to exert a great influence in driving the gas backwards through the sewers.

Again, in many houses there is no privy accommodation. I have made enquiries of the people as to what they did with excrement voided by children during the day, and I was informed that some threw it immediately on the street grates; others living near the Moor took it to the Moor Depot (i.e., the Corporation depot for midden refuse); others put it into the sinks attached to their houses; and others kept it in the rooms where they slept, ate, and lived, until night, when it was sent to the night cart.

From the condition of the back streets in this locality a few hours after they are swept, I am forced to the conclusion that many people send their children into the streets rather than they should be compelled to bear so great a nuisance in their houses.

With surroundings such as these, children cannot possibly be in a healthy condition, and therefore when so highly infectious a disease as Measles starts among them they will be more prone to be attacked than those living in other neighbourhoods."

Out of all the cases that came under my notice, eighty were either said to have been caught at school, or that the child came home from school ill. I do not think, however, that anything like this number can be traced to school, because in many instances I have been able to ascertain that the children had been in houses where Measles existed.

On going through the cases, I am forced to the conclusion that the rapid spread of the disease was chiefly due to the ignorance of mothers in taking their children to infected houses, and, secondly, to the unhealthy condition in which the people themselves kept their houses. It is remarkable that the greatest mortality occurred in the two districts in which the habits of the people are most uncleanly, namely, in Sunderland Parish and in the colliery district in Monkwearmouth.

In very numerous instances three and four children in a family were laid up at the same time, and in a few instances there were five and even six patients in bed.

The age of the youngest person attacked was five weeks, and the oldest, twenty years. Between the ages of seven years and twenty years there was only one person, aged ten years.

The great bulk of the attacked were between one and five years old.

Out of 642 cases, 145 were in families where there was only one person ill, in 117 families there were two ill, in 56 families three ill, in 21 families four ill, in one family five ill, and in one six ill.

I must not omit to notice the severity of the Chest symptoms, 1882 REPORT. which complicated the Measles. At the time Measles was at its Complications. height in the Borough, it will be noticed, on reference to the Chart, that Lung Diseases (*i.e.*, Pneumonia and Bronchitis) were unusually fatal, and, indeed, may be almost said to have been—if it be admissable to use the term with regard to them—epidemic.

It suggested itself to me that examination into some of the fatal cases of Pneumonia and Bronchitis would probably reveal a previous history of Measles, but enquiry did not bear out the idea, for out of a large number of cases only one could be traced to the Zymotic disease.

Whatever the cause, there can be no question that the great susceptibility of children, at the period of the epidemic, to Chest diseases, considerably swelled the mortality returns from Measles.

Scarlet Fever, which may fairly be said to be endemic in Sunderland, was again prevalent, and caused 168 deaths, which represent a death-rate of 1·41 per 1,000 inhabitants. Scarlet Fever.

I again present the table, compiled last year, but with corrected rates, shewing the deaths from this cause during twelve years :—

Years.	Deaths from		Rate per 1,000.		Death-rate of	
		Scarlet Fever.				Borough.
1871	190	....	1·92	....	36·4
1872	114	....	1·13	....	26·9
1873	32	.. .	0·31	....	22·9
1874	140	....	1·34	....	23·4
1875	61	....	0·57	....	22·5
1876	133	....	1·23	....	21·6
1877	138	....	1·26	....	22·7
1878	186	.. .	1·67	....	25·7
1879	243	....	2·15	....	22·2
1880	312	....	2·71	....	25·2
1881	145	....	1·24	....	20·8
1882	168	....	1·41	....	26·4

Last year—calculating on the rate per 1,000—stands, in order of greatest fatality, fourth from the highest—the mortality having been greater in 1880, 1879, and 1878.

1882 REPORT. The deaths were distributed in the districts as follows :—

	Deaths.		Rate per 1,000 Inhabitants.
Sunderland East.....	20	....	2·10
Sunderland West	8	....	1·30
Bishopwearmouth North ..	31	....	0·84
Bishopwearmouth South ..	44	....	1·10
Monkwearmouth.....	65	....	2·43
	168		

Now, these figures indicate that the disease was most rife in those districts of the Borough in which the sanitary conduct of the people's homes is least cared for, and in which the people themselves are least educated.

I have before me a list of 428 cases of this disease, and the numerous instances in which it has spread through the same family, is worthy of notice.

In many instances the first person attacked has had the disease in a mild form, but nevertheless it has developed into malignant disease among other members of the family, and ended fatally. As a rule, I did not know of the disease, owing to the absence of compulsory notification, until one person had died, and then I found that generally some other members of the family had been attacked. This is much to be deplored, because if there be any disease whose spread can be prevented by timely isolation, disinfection, cleanliness, and ventilation, it is Scarlet Fever. The converse of this is, unhappily, too true as regards its propagation.

In many instances the first cases in a family have been traced to outside sources, such as children visiting at houses wherein the disease existed, and in other cases from one tenant's family to another's living in the same house ; but in many cases there was no possibility of tracing the origin of the disease.

In tenemented houses the tenants are constantly changing, so that it is almost impossible to obtain any facts as to the sickness that has been in the house during the previous year or two. In some instances I have been forced to the conclusion that the germ must have lain *perdu* in the house for a long while, until the opportunity arising, it seized its victims. This could hardly occur if the Sanitary Authority had notification of the disease,

because the printed directions given to each head of the family would guide him as to the proper course to adopt, and besides, the Sanitary Inspector would, at the close of the illness, thoroughly disinfect the house.

It is much to be regretted that so few persons will avail themselves of the House of Recovery, owing, I believe, to the want of confidence that is felt in it; because it would certainly be a great service to the public for the isolation of Scarlet Fever, for which purpose I would be glad to see the institution entirely devoted.

Isolation at home, is, in the majority of cases, an idle word; the people, except among the upper classes, have not the means of separating the sick from the hale.

What is to be done?

The mortality returns of the past twelve years are deserving the very closest attention of the Medical Profession, not only because of the deaths, but also because of the many persons who have been made to suffer for life through the complications which unhappily follow this disease.

Every death represents about 12 cases; so it will be perceived what a large amount of Scarlet Fever has existed for a long while in the Borough.

I can see no prospect of dealing effectively with this disease, except by isolation in Hospital; and I therefore appeal to the Medical Men to send all cases of Scarlet Fever to the House of Recovery, which, I am sure, the Sanitary Authority—if the public show signs of availing themselves of it—would gladly set aside for the isolation of a disease which has been a scourge to the town for so many years.

The disease was most fatal in the first four quarters, when there were respectively 59 and 44 deaths.

The following figures give the deaths and death rates in each quarter:—

Quarters.		Deaths.		Death-rate.
1st	....	59	....	1·99
2nd	....	35	....	1·18
3rd	....	30	....	1·01
4th	....	44	....	1·48
Whole Year....		168		1·42

1882 REPORT. There were 106 deaths from Whooping Cough, compared with
 Whooping Cough. 40 in 1881 and 73 in 1880. The deaths were registered as follows :—

Sunderland East	7
Sunderland West.....	7
Bishopwearmouth North	24
Bishopwearmouth South.....	15
Monkwearmouth	53
	<hr/>
	106

Diphtheria. Eighteen deaths were ascribed to Diphtheria—1 in Sunderland East, 6 in Bishopwearmouth North, 6 in Bishopwearmouth South, and 5 in Monkwearmouth.

Thirteen of these deaths were registered in the fourth quarter of the year, 2 in the first, and 3 in the third.

Diarrhoea and Dysentery. Diarrhoea and Dysentery caused 125 deaths, 6 of which occurred in Sunderland East, 5 in Sunderland West, 41 in Bishopwearmouth North, 37 in Bishopwearmouth South, and 36 in Monkwearmouth.

The death-rate from these causes was 1·05 per 1·000 inhabitants.

Additional information respecting these diseases will be found under the head of Infantile Mortality.

CONSTITUTIONAL DISEASES.

Constitutional diseases caused 454 deaths; of this number 1882 REPORT
Phthisis was credited with 247, which represents a death-rate of
3·81 per 1·000 of the estimated population.

The deaths from Phthisis were distributed in the town as Phthisis.
follows :—

Sunderland East.....	12	=	Death-rate of 1·26	{ per 1,000
Sunderland West	11		„ 1·79	{ inhabitants.
Bishopwearmouth North ..	108		„ 3·00	„
Bishopwearmouth South ..	62		„ 1·55	„
Monkwearmouth	54		„ 2·02	„
<hr/>				
Whole Borough	247		„ 2·07	„

The high rate in Bishopwearmouth North is due to the number
of deaths which occurred at the Workhouse Hospital.

In the report for 1881 I went fully into the relative number
of deaths from Phthisis in the districts, and the remarks I then
made hold equally good for the present year.

Scrofula was most fatal in Sunderland District, where it caused
22, out of a total of 46, deaths in all parts of the Borough. Scrofula.
This is easily accounted for. In this district reside the very
poorest of the inhabitants, and their surroundings are the worst
in the town. They earn at best only a precarious livelihood,
and their habits are not such as to conduce to the bearing of
healthy progeny.

It is not a little remarkable that not a single death from Rickets
Rickets was recorded during the year. The character of the
water supply of the Borough, perhaps, fully explains this, as it
is largely impregnated with lime.

LOCAL DISEASES.

1882 REPORT.

Under this heading are included—

1. Diseases of the Nervous System.
2. „ Organs of Special Sense.
3. „ Circulatory System.
4. „ Respiratory System.
5. „ Digestive System.
6. „ Lymphatic System.
7. „ Glandlike Organs of Uncertain Use.
8. „ Urinary System.
9. „ Locomotive System.
10. „ Integumentary System.

The following table gives the number of deaths under each division, and the effect on the death-rate of the year.

DISEASES.	DEATHS.	DEATH-RATE.
Nervous System	444	3·72
Organs of Special Sense.....	2	0·02
Circulatory System	161	1·35
Respiratory System.....	534	4·48
Digestive System	156	1·31
Lymphatic System .....	..	..
Glandlike Organs of Uncertain Use ..	1	0·01
Urinary System	52	0·43
Reproductive System	26	0·21
Locomotive System.....	11	0·09
Integumentary System	5	0·04

Nervous System. The number of deaths in each district at three ætal periods are given in the Appendix.

Among diseases of the Nervous System, Inflammation of the Brain and Convulsions produced the largest mortality, being credited respectively with 100 and 167 deaths.

Thirty-two of the 60 deaths ascribed to Paralysis occurred in 1882 REPORT
Bishopwearmouth North, owing to the Union Hospital being Paralysis.
situated there. The majority were persons in poor circumstances,
and aged from 55 to 85 years.

The disease was most fatal to persons engaged in arduous
employments, namely, to 7 labourers and 7 mariners. It was
fatal to 25 females.

Among diseases of the Circulatory System, the various diseases Diseases of the
of the heart produced a mortality of 154. 129 of this number Circulatory
were registered under the vague term of Heart Disease, while 3 System.
were ascribed to Endocarditis, and 13 to valvular diseases of the
Heart. These diseases were most fatal to the following classes of
persons :—Blacksmiths, 3 ; labourers, 10 ; mariners, 9 ; miners, 4 ;
shipwrights, 3.

The deaths from diseases of the Respiratory System numbered Diseases of the
534, of which Bronchitis and Pneumonia caused 446. The Respiratory;
greater proportion of these deaths occurred among children under System.
five years, of whom 258 died. The next period of life at which
they were most fatal was between 55 and 65, at which age they
were the registered causes of 44 deaths. Between the ages of
65 and 75 they caused 40 deaths, and between 45 and 55 they
were responsible for 35 deaths.

The deaths were registered in the districts thus :—

Sunderland East.....	76
Sunderland West	60
Bishopwearmouth North	99
Bishopwearmouth South	149
Monkwearmouth	62
	<hr/>
	446

It is remarkable that the heaviest record, in proportion to its
population, is in Sunderland East and West Districts, which
were the districts wherein Measles exerted its deadliest influence.
The period of the year at which Bronchitis and Pneumonia were
most prevalent and fatal was also the period when Measles was
at its height. Lung diseases and Measles seem to have gone
hand in hand. Looking at the record, one cannot help coming
to the conclusion that many of the supposed chest cases were

1882 REPORT in reality suppressed Measles. I have already stated, when speaking of Measles, that I was unable to obtain a previous history of Measles in these cases, but, looking at the simple facts as they stand, I am forced to the conclusion that there was a close connection between Measles and the largely increased number of deaths from Bronchial affections. Unless, indeed, as some recent writers have held, that Pneumonia may itself be epidemic. This, however, is, to my mind, not yet proven.

During the four last months of the year there was hardly a day on which either northerly or easterly winds did not prevail, and these were most unfavourable for chest complaints. I do not know any place where the winds from these quarters are felt more keenly than in Sunderland, and, consequently, when diseases are epidemic in which chest complications occur, the chances of recovery are very much minimised.

It will be noticed, on reference to the Meteorological Chart, that the atmospheric moisture was above the average during October, November, and December.

The mean temperature for the same period will be found to be somewhat above the average of the large towns.

Diseases of the
Digestive
System.

To the various diseases of the Digestive System 156 deaths were ascribed. Dentition caused 41 of these; diseases of the Liver (not including Cirrhosis of the Organ), were fatal to 29 persons; Obstructive Disease of the Intestines, to 20; Peritonitis, to 17; Enteritis, to 13; and Cirrhosis of the Liver, to 9.

Diseases of the
Urinary
System.

There were 52 deaths from diseases of the Urinary System, compared with 39 in 1881. 23 were ascribed to Nephritis; 11 to Bright's Disease; 4 to Disease of the Bladder; 4 to Disease of the Prostate; and 10 to other diseases of this system.

Diseases of the
Reproductive
System.

Twelve women lost their lives in or after Childbirth. Four of these deaths were caused by Placenta Prævia and Flooding. In addition, Puerperal Fever, classified under Septic diseases, was fatal to 6 women, and Puerperal Convulsions, to 1 woman.

INFANTILE MORTALITY.

Last year, the Infantile Mortality rate was higher in the ¹⁸⁸² REPORT. Borough than it had been in the previous ten years. Out of every thousand children born 184 died before they had attained their first year.

The average rate during the same period for twenty of the large towns was 166. With the exception of Leicester, the rate in Sunderland was the highest in England. The lowest rate in the towns was 142 at Portsmouth and Bristol, and the highest (192) at Leicester. The birth-rate in Sunderland was, however, the highest in the kingdom, being 41·2 per 1,000 inhabitants; and as it sometimes, although not invariably, happens a high birth-rate produces a high Infantile death-rate, it is not a matter of the greatest surprise that so many infants died.

In the accompanying table (see next page) I give the principal causes of death in the various districts among infants.

CAUSES OF DEATH.	Sunderland East.		Sunderland West.		Bishopwearmth. North.		Bishopwearmth. South.		Monkwearmth.		Whole Borough.	
	Under 1.	1 to 5.	Under 1.	1 to 5.	Under 1.	1 to 5.	Under 1.	1 to 5.	Under 1.	1 to 5.	Under 1.	1 to 5.
Measles	8	35	3	21	9	25	7	25	4	33	31	138
Scarlet Fever .....	..	13	..	5	3	18	2	26	6	34	11	96
Diphtheria.....	..	1	..	..	1	4	1	3	1	2	3	10
Whooping Cough.....	2	5	2	4	9	15	9	6	19	31	41	61
Diarrhoea	5	1	3	1	30	8	28	6	26	7	92	23
Bronchitis & Pneumonia, and other Respiratory Diseases	25	30	19	23	31	23	55	55	20	26	58	96
Convulsions	7	4	8	5	39	5	33	8	45	5	132	27
Marasmus and Atrophy..	6	2	4	4	16	15	27	4	24	5	77	30
Debility	12	1	6	..	34	1	32	..	9	1	93	3
Meningitis	2	7	1	2	8	14	15	16	6	10	32	49
Tubercular Meningitis ..	..	3	1	..	7	10	4	7	2	6	14	26
Scrofulous Diseases	5	5	5	4	..	4	4	2	3	2	17	17
Phthisis .....	..	..	..	2	5	12	1	6	3	5	9	25
Premature Birth	5	..	4	..	18	..	22	..	19	..	68	..

Convulsions.

This table confronts us with the fact that among children under a year old Convulsions was the chief cause of death. The recollection that this complaint is nearly altogether preventable, makes the loss of so many lives a matter of serious regret. Convulsions are generally induced by constipated bowels; by the presence of worms; by dentition, when the tooth presses on the

swollen gums ; and by the use of improper and indigestible food. 1882 REPORT.
A little attention to these matters, on the part of parents, would undoubtedly save many lives annually.

The next most fatal disease among infants was Diarrhœa, which Diarrhœa. carried off 92. These deaths were most numerous in the months of July, August, and September. Out of a total of 115 deaths—92 being under 1 year and 23 between 1 and 5—97 occurred at this period of the year. Of these, 74 were still in their first year, and 23 were a year old, but had not attained to their fifth year.

Of the children under a year old, 19 were under 3 months, 20 between 3 and 6 months, and 35 between 6 and 12 months. Consequently the greatest number of deaths was recorded at the at the age for weaning the child. It is then that the greatest mischief is done, and, as I found from personal examination of very many of the cases, it is caused by the improper food given to children. It is at this particular period of life that the greatest care should be given to food, because, owing to dentition, the system is, more or less, in an inflammatory condition. If mothers would only be content to give their children milk diet for the first twelve months of life, there would be far fewer lives lost.

It would serve no useful purpose to mention some of the articles of dietry given to the babes ; suffice it to say that many of them were most improper, and were given through the ignorance of the parents.

Another exciting cause was the dirty condition of many of the children and their surroundings, and in some cases, I might almost say, the neglect of the children through the dissipated habits of the parents.

In one house that I visited, the parents were inebriated at 10 a.m., while their child lay dead in the room. There were several other persons with them—one a woman living in the same house. She, too, was drunk. A fortnight later I was again in the same house enquiring the cause of another infant's death from diarrhœa, and I discovered it was the child of the very woman whom I had previously seen drunk.

1882 REPORT. The connection between the mortality from Diarrhœa and the Meteorological conditions, is shewn in the following table:—

Week Ending.	No. of Deaths.	Aged 3 Months and under.	Aged 3 Months to 6 Months.	Aged 6 Months to 12 Months.	Aged 1 to 5 Years.	5 Years and upwards.	Max. Temperature of the Air.	Mean Temperature of the Air.	Daily Range of Temperature.	Rainfall in Inches.
July 8th.....	1	1	..	..	..	..	°F. 77·0	°F. 62·2	°F. 21·5	1·72
" 22nd	2	..	..	..	1	1	77·0	62·8	22·0	1·09
" 29th.....	7	..	1	5	..	1	76·0	60·2	21·7	0·79
August 5th.....	13	3	3	5	2	..	76·0	62·4	18·2	0·47
" 12th.....	14	4	3	2	1	4	86·0	67·0	26·1	0·00
" 19th.....	14	3	4	7	..	..	80·0	62·4	18·2	0·51
" 26th.....	11	1	3	3	4	..	76·0	59·0	21·5	1·90
September 2nd..	17	2	2	7	6	..	70·0	58·5	18·8	0·45
" 9th..	6	..	1	2	2	1	74·0	58·6	22·4	0·07
" 16th..	9	3	2	2	1	1	72·0	55·5	22·8	0·62
" 23rd..	5	2	..	1	1	1	69·0	55·0	17·7	0·12
" 30th..	3	..	..	..	3	..	71·0	54·4	17·7	0·73
October 7th	4	..	1	1	2	..	74·0	57·2	17·5	0·59
Total.....	106	19	20	35	23	9	75·2	59·6	20·4	9·06

The following table exhibits the Temperature and Rainfall, 1882 REPORT. together with the number of Infantile Diarrhoeal Deaths which were registered during the Autumn Months of each year since 1875 :—

Years	Mean Temperature of Air.	Daily Range of Temperature	Rainfall in Inches.	Deaths under 5 years of age.	Total Deaths.
	°F.	°F.			
1875	61·06	17·5	10·24	70	88
1876	60·05	26·2	7·78	86	109
1877	58·40	12·5	9·76	49	62
1878	62·00	14·4	6·43	140	156
1879	58·00	14·2	8·20	28	32
1880	61·50	13·7	9·28	146	154
1881	58·00	16·0	12·32	77	90
1882	61·44	19·9	8·79	115	125

Measles caused altogether 191 deaths, of these 31 were under 1 year, and 138 between this age and 5 years. I was much struck, during my visits among the poor, who had this malady in their homes, with the great want of skill exhibited by the parents in nursing their children. The disease was unusually complicated with Pneumonia and Bronchitis, and poultices were freely ordered by the medical attendants. It was painful to witness the attempts of many of these poor persons to make them. In size, they were generally much too small, and in every respect they were poultices only in name. In regard to feeding, also, I found the parents very uninformed. This was particularly so in one district, where I discovered that one medical man attended, it seemed to me, nearly every one. I could not help wondering if there was a limit to the practice which a Medical man felt justified in accepting.

Measles.

1882 REPORT. One noticeable feature of the epidemic was the prevalence of Diarrhœa in the later stages, due, possibly, to the inflammatory condition of the mucus tracts, induced by Bronchitis and Cough, extending to the Bowels.

Scarlet Fever. Eleven deaths under one year, and 96 between this age and 5 were registered. Careful enquiry failed, in many cases, to elicit where the disease was contracted. In many houses there were found two, three, and four patients. The parents had taken no precautions to isolate the patient, and the disease spread through the family, often snatching off the one that was last attacked.

Whooping Cough. One hundred and six deaths from Whooping Cough were recorded. 101 of these were under 5 years, 41 not having reached their first year.

The disease was most fatal in Monkwearmouth, where it was credited with 50 deaths. The deaths were principally in the colliery district. I think many of these deaths would not occur if parents would take care that their children, when first attacked, are not exposed to sudden changes of temperature, from heat to cold, and if they restricted the little ones to a less animal diet.

Bronchitis and Pneumonia. The deaths under 5 years from Bronchitis and Pneumonia numbered 154. In proportion to population the disease was most fatal in Sunderland East and West. The mortality under one year was 58, and between one and five, 96.

Constitutional Diseases. Tubes Mesenterica caused 16 deaths among children under one year old, and 25 between that age and five years, in all 41 deaths. One of these occurred in Sunderland East, three in Sunderland West, thirteen in Bishopwearmouth North, and twelve in Bishopwearmouth South, and a similar number in Monkwearmouth.

Hydrocephalus. Hydrocephalus was fatal to 49 children under 5 years, of whom 14 had not attained their first year. These deaths were distributed as follows :—Sunderland East 3, Sunderland West 1, Bishopwearmouth North 17, Bishopwearmouth South 11, Monkwearmouth 8.

To Phthisis was ascribed 34 deaths, 9 being children under one year old, and 25 between that age and 5 years. Two of these deaths were registered in Sunderland West, 17 in Bishopwearmouth North, 7 in Bishopwearmouth South, and 8 in Monkwearmouth. 1882 REPORT.
Phthisis.

Scrofula was the cause of 34 deaths. Seventeen were under one year, and 17 between twelve months and five years old. Ten deaths took place in Sunderland East, 9 in Sunderland West, 4 in Bishopwearmouth North, 6 in Bishopwearmouth South, and 5 in Monkwearmouth. Scrofula.

Marasmus, Atrophy, and Debility caused 203 deaths. The distribution of these deaths were as follows :— Marasmus,
Atrophy, and
Debility.

Sunderland East	18	under one year,	3	between one and five.
Sunderland West	10	„ „	4	„ „
Bishopwearmouth North	50	„ „	16	„ „
Bishopwearmouth South	59	„ „	4	„ „
Monkwearmouth	33	„ „	6	„ „
	<hr/>		<hr/>	
	170		33	

In all, 203 deaths, compared with 179 in 1881.

In 1881 the number of deaths from Inflammation of the Brain was 59, whereas last year there were 81. These deaths were referred to the districts thus :—Sunderland East 9, Sunderland West 3, Bishopwearmouth North 22, Bishopwearmouth South 31, and Monkwearmouth 16. Cerebral
Diseases.

Convulsions shewed an increase over 1881. The number of deaths being 159 as compared with 147 in that year. Eleven deaths were registered in Sunderland East, 13 in Sunderland West, 44 in Bishopwearmouth, 41 in Bishopwearmouth South, and 50 in Monkwearmouth. Convulsions.

One hundred and thirty-two of these deaths occurred among infants, while 27 were children between one year and five years old.

Premature Birth shewed a return of 68 deaths, or an increase of three over the previous year's return. Premature
Birth.

The Accidental Deaths numbered 19, which are 4 less than in 1881. The causes of death were: Fractures or Contusions 7, Burns or Scalds 2, Suffocation 7, other causes 3. There was one Homicidal Death. Violence.

ACTION TAKEN DURING THE YEAR FOR THE PREVENTION OF THE SPREAD OF DISEASE.

1882 REPORT. The number of persons suffering from infectious diseases, who were removed to the House of Recovery and the Union Hospital, are given in the following table, which also shews the numbers removed in the two previous years.

	1880.		1881.		1882.
Small Pox.....	1	..	2	..	4
Measles	6	..	2	..	7
Scarlet Fever	40	..	31	..	9
Diphtheria .....	..	..	..	..	1
Typhus Fever	19	..	6	..	92
Enteric & Continued Fever }		..	14	..	30
Erysipelas	1	..	2	..	1
	<u>67</u>		<u>57</u>		<u>144</u>

100 of these cases were removed to the Union Fever Hospital, and 44 to the Corporation House of Recovery.

The total number of infectious diseases reported to, or discovered by, the Sanitary Authority was 1,744.

The following table gives the diseases of which the Authority gained information during the year, together with the number of cases in the previous years.

	1880. No. of Cases.		1881. No. of Cases.		1882. No. of Cases.
Small Pox.....	1	..	4	..	7
Typhus Fever	21	..	11	..	126
Enteric ,,	35	..	53	..	79
Simple Continued Fever ..	16	..	5	..	25
Scarlet Fever	792	..	459	..	435
Measles	279	..	8	..	580
Diarrhœa	198	..	85	..	268
Whooping Cough	138	..	68	..	197
Diphtheria	6	..	11	..	27
	<u>1486</u>		<u>704</u>		<u>1744</u>

Information respecting the above large number of cases was obtained from the Poor Law Medical Officers, the Members of the Medical Profession, from the people themselves, and through the vigilance of Inspector McKay. 1882 REPORT.

In the early part of the year I issued a circular to the Medical Profession, in which I requested them to give me information of Scarlet Fever or any other Zymotic disease occurring in their practice, more especially when the patients belonged to the lower classes, lived in tenemented houses, or resided in crowded neighbourhoods. This information, I informed them, would be always considered as a confidential communication, and would not be used in any manner that could cause offence. At the same time I said that, if they wrote on the post card bearing the information that no supervision was required, neither the Inspectors nor myself would attend until the close of the illness, at which time the sanitary condition of the house would be examined, and the rooms thoroughly disinfected.

I am glad to say that many of the profession gave me valuable information during the year, and I now desire to thank them most heartily for it, and to acknowledge the courteous manner in which they acceded to my request.

In the month of September, owing to the prevalence of Measles, Typhus Fever, and Scarlet Fever, the following circular and memorandum were issued to the proprietors and teachers of all the public and private schools in the borough :—

Circulars to
Schools.

“HEALTH OFFICES, SUNDERLAND,

“SEPTEMBER, 19TH, 1882.

“SIR,—I desire to call your attention to the fatal prevalence of Measles and other infectious diseases in this borough, and to request you in your own interest, and that of the public, to be extremely careful not to allow scholars, who have any infectious complaint, to resume attendance at school until a certificate is received from a medical man, stating that they can return without causing any risk to the other pupils.

“As regards Measles, an impression prevails that it is a disease of little importance, and does not require as stringent precautions to be taken against its spread as against Scarlet Fever. In consequence of this erroneous idea, a considerable amount of carelessness and negligence is manifested by parents and guardians in regard to it.

“I may mention that in the years 1874, 1876, 1878, and 1880, when the town was suffering from epidemics, there were, respectively, 59, 42, 93, and 99 deaths, and last week there were 12 fatal cases from Measles alone.

“I am, Sir, your obedient Servant,

“ALFRED E. HARRIS,

“Medical Officer of Health.”

BOROUGH OF SUNDERLAND.

PROTECTION AGAINST INFECTIOUS DISEASES.

TO PROPRIETORS OF SCHOOLS, SCHOOL MANAGERS, AND OTHERS.

1882 REPORT

As from personal enquiries made, there is every reason to believe that Measles (at present epidemic in the borough), Scarlet Fever, and other infectious diseases, which from time to time are more or less prevalent amongst children, are spread to a considerable extent by means of schools, it is imperatively necessary that proprietors of schools, school managers, and teachers should take every precaution against such diseases being introduced into their schools, and with a view of assisting them in that direction, I have been desired by the Health Committee to make such *recommendations* as might seem advisable for effecting that object, and beg to submit the following—

1. That on admission into any school, it should be one of the requirements from parents that they should give notice to the Head Master or Mistress immediately on their becoming aware of the fact that Infectious Disease of any kind is in their houses.
2. That on receipt of such notice, the Master or Mistress should give information thereof to the Medical Officer of Health.
3. That when any child is absent from school on the plea of illness, a letter from the parents or a certificate from a Medical Man should be required, stating the nature of such illness.
4. That a child who has suffered from Infectious disease of any kind should not be allowed to re-enter the school without producing a certificate from a Medical Man, stating that he or she can do so without danger of infecting others.
5. That children should not be allowed to attend school from a house in which Infectious disease is known to exist, as, although not ill themselves, they are very likely to carry the infection to others, and so spread the disease.
6. During the hours in which a school room is not occupied, the upper and lower sashes of the windows should be opened, so that the room may be thoroughly ventilated. It is desirable that in all school rooms there should be means for cross ventilation.
7. During the winter months, school rooms should always be kept warm and comfortable by means of open fires or stoves. It is a false notion to suppose that a number of children in a room is sufficient to keep such room warm; no doubt the temperature will be raised, but this is done by the extraction of the heat from the bodies of the children, which cannot but be injurious to their health, whereas an open fire, whilst warming a room and keeping the children warm, also acts very efficiently as a means of ventilation.
8. Cleanliness amongst the scholars should be especially insisted upon, both as regards their clothes and persons. The greater the cleanliness of a school and of the scholars attending it, the less likelihood there will be of infectious disease spreading, should it by any chance be introduced therein.
9. The school room floors, desks, and forms should be thoroughly cleansed with carbolic or sanitas soap and water, and the walls brushed down at least once a week; and at the end of each term the rooms should be disinfected with sulphurous or nitrous acid, and cleansed throughout.

ALFRED E. HARRIS,

Health Office, Sunderland,
Sept. 19th, 1882.

Medical Officer of Health.

And later on the following instructions were extensively posted about the Borough, and distributed in the form of handbills at every house. 1882 REPORT.

A copy of these instructions was also given, throughout the year, to every householder in whose house an Infectious disease appeared.

BOROUGH OF SUNDERLAND.

INFECTIOUS DISEASES.

INSTRUCTIONS FOR PREVENTING THE SPREAD OF FEVER, SMALLPOX, SCARLATINA, MEASLES, AND OTHER INFECTIOUS DISEASES.

1.—Separate the sick person from the rest of the family, and remove carpets, curtains, and other unnecessary woollen or linen articles, and send information to the Medical Officer of Health.

2.—Admit fresh air by opening the upper window-sash. Keep the fire-place and chimneys open, using a fire when possible. Allow air to pass freely through the house by means of open windows and doors.

3.—Hang up a sheet outside the door of the sick room, and keep it wet with a quarter-pint of carbolic acid (No. 4), or liquid sanitas, or a pound of chloride of lime mixed in a gallon of water.

4.—Receive all discharges from the patient into a solution of carbolic acid or sanitas. Add carbolic acid or sanitas plentifully to the discharges before emptying them into the closet.

5.—Pour daily into every sink, closet, or privy, a quantity of the above-named disinfectants.

6. All cups, glasses, spoons, &c., used by the patient, should be first washed in the solution of carbolic acid or sanitas, and afterwards in boiling water.

7. No article of food should be allowed to remain in the room.

8. All bed and body linen used by the sick person should be at once steeped for a few hours in any of the above-mentioned solutions, and afterwards BOILED in water.

9. Instead of handkerchiefs, small pieces of rag should be used, and these should be burnt when soiled.

10. Persons attending on the sick, should wear garments made of cotton, or other washable material. Woollen dresses should not be worn. The attendants should wash their hands after waiting on the sick person, using carbolic or sanitas soap.

11. The sick room must on no account be visited by others than those in immediate attendance on the sick, as visitors are very liable to carry away infection.

12. When recovering, and while the body of the patient is peeling, camphorated or carbolised oil should be rubbed over the sick person every day. The sick person must not be allowed to mix with the rest of the family until the peeling has entirely ceased.

13. When the sickness has terminated, the sick room should be cleansed, and information sent to the Health Office, when an Inspector will attend and thoroughly fumigate the place, and disinfect all clothing that has been in use in the sick room. Afterwards the room should be freely ventilated, and the ceiling lime-washed, the paper stripped from the walls, and burned; if the walls had been previously lime-washed the lime-washing should be repeated; and the furniture and all the

1882 REPORT. — woodwork washed with soap and water containing a little chloride of lime. All bedding and articles that can not be washed, should be disinfected at the Corporation Hospital Disinfecting Chamber. Until this process of disinfection is properly carried out, the room cannot be safely occupied.

14. Children must on no account be allowed to attend school from a house in which there is infectious disease.

15. In case of death, the body should not be removed from the room, except for burial, unless taken to a mortuary, nor should any article be taken from it until disinfected, as directed in Rule 13. The body should be quickly put into a coffin, with 2 lbs. of carbolic acid powder. The coffin should be fastened down, and the body buried without delay.

N.B.—Carbolic Acid and other disinfectants may be bought of any Druggist, or may be had gratis at the Office of the Sanitary Inspector, 17, East Cross Street, by those who cannot afford to buy them.

PENALTIES.

Attention is particularly directed to the following provisions of the Public Health Act in reference to "Infectious Diseases"—

1. The owner or occupier may be required to cleanse and disinfect any house or room, or the cabin or berth of any ship or vessel, and the articles contained in it likely to retain infection—where infectious disease has existed—under a penalty not exceeding 10s. a day for neglect.

2. If any person suffering from any dangerous infectious disorder shall enter a cab or other public conveyance, without informing the driver thereof that he is so suffering, he shall be liable to a penalty not exceeding £5.

3. Any person suffering from any dangerous infectious disorder—such as fever, scarlet fever, small-pox, &c.—who exposes himself in any street, school, church, chapel, theatre, or other public place, or in any omnibus or other public conveyance, and any person in charge of one so suffering, who exposes the sufferer, shall be liable to a penalty not exceeding £5.

4. Any person who, without previous disinfection, gives, lends, sells, or moves to another place, or exposes any bedding, clothing, rags, or other things which have been exposed to infection, becomes liable to a penalty not exceeding £5.

5. Any person who lets a house, room, or part of a house, in which there has been infectious disease, without having such house or room, and all articles therein liable to infection, disinfected to the satisfaction of a qualified medical practitioner, is liable to a penalty not exceeding £20. This applies to all public-houses, hotels, and lodging houses.

6. If any person who lets or shows for hire any house or part of a house, makes any *false statement* as to the fact of there being in such house, or having within six weeks previously been therein, any person suffering from an infectious disease, such person *answering falsely* shall be liable to imprisonment, with or without hard labour, or to a penalty not exceeding £20.

ALFRED E. HARRIS,

Medical Officer of Health.

During the year 148 articles of clothing were burned (for 1882 REPORT. particulars *vide* p. XIX. in appendix), compared with 24 in the previous year.

The clothing, for the greater part, was belonging to persons suffering from Typhus Fever. The articles were replaced by the Sanitary Authority under the provisions of the Public Health Act, 1875. Clothing, &c.,
destroyed.

The number of articles disinfected far exceeds anything hitherto attempted by the Health Department, and I am pleased to notice a growing desire among the community to have all clothes, &c., disinfected after illness. Disinfection of
Clothing, &c.

In 1881 the number of articles disinfected was extremely small, whereas last year there were 680 different articles sent to the disinfecting chamber.

A list of the various articles treated will be found on page XXI. of the appendix.

In nearly every instance where infectious disease occurred notice to cleanse and disinfect the house at the close of the illness was served by the Inspector of Nuisances. Six hundred and seventy such notices were served, the number in 1881 having been 273. These houses were afterwards fumigated by the Inspector, and cleansed under his direction. Disinfection of
Houses.

During the year special proceedings were taken at the Fish Market to prevent the landing of unsound fish. As Medical Officer of Health for the Port Sanitary Authority and the Urban Authority, I was enabled to arrange that the Inspector of the former Authority should attend daily at the market to watch the condition of the fish brought in from sea, and to hinder the landing of any unsound fish. The Fish Market

On the other hand, if he noticed unsound fish on the quay, he at once gave notice to the Urban Authority, and the fish was seized.

The prevention of the landing of unsound fish is important, not merely to Sunderland alone, but to the country generally, as the fish brought into this port is sent all over the kingdom.

1882 REPORT

The close watch kept on the market has had a good effect, and Inspector Preston informs me that the fishermen rarely now attempt to bring unsound fish into the Sunderland Market.

To show the work done last year I may mention that in 1881 there were only 56 lbs. of fish seized and destroyed, whereas, last year, there were 1,963 lbs. of large fish seized (cod, &c.), while 2,400 mackerel, and 26,000 herrings were condemned.

The action of the Port Sanitary Authority's Inspector prevented the landing of 40 tons of potatoes in a bad condition. They were taken to sea and then thrown overboard.

Proposed New
Local Act of
Parliament.

For at least two years the provisions of a new Local Act of Parliament have been under the consideration of the various Committees of the Town Council, and last year they submitted to the latter body the draught of the proposed bill.

The Health Committee prepared a number of important clauses of which the following is a brief summary :—

- 1.—Compulsory Notification of Infectious Diseases.
- 2.—Cowkeepers and Purveyors of Milk to give a list of their customers when the spread of disease has been attributed to milk supplied by them.
- 3.—Persons engaged in Washing and Mangling to furnish list of owners of clothes.
- 4.—The retention of the dead bodies of persons dying from Infectious Diseases for more than 36 hours prohibited.
- 5.—Mourning coaches to be subject to provisions relating to hackney carriages.
- 6.—Corpses not to be carried in public conveyances.

Then there are a large number of clauses relating to Sanitary matters, which effect the vital interests of the Borough, and, without which, it is almost impossible to ensure the health of the inhabitants. The clauses relating to the drainage of new buildings, and to the paving, channelling, and kerbing, are alone sufficient reason for energetically proceeding with the bill. The condition of Bambro' Street, St. Luke's Road, and other parts of the Borough is visible evidence that a remedy is required. I trust the Urban Authority will this year lodge the proposed bill, and that its main provisions may soon become law.

THE HOUSE OF RECOVERY.

In the fortnightly report which I presented to the Health Committee, 2nd February, 1882, in speaking of the House of Recovery in reference to Scarlet Fever, I said, "There is an extraordinary antipathy to the Hospital among the people, and although I have offered the parents free access to their children, or even for the mother or adult relative to stay with them, and have also explained to them that their own medical adviser could visit them and prescribe for them, yet, notwithstanding this, they have in every case turned a deaf ear to the proposal, and refused to place the patients in that place, which is undoubtedly best for them, and safest for the community."

A few days later I addressed a letter to the Medical profession, in which I expressed a desire that they would endeavour to remove the existing prejudice to the Hospital, and asked them to recommend their patients to enter it.

This letter, however, met with little or no success, and gradually I discovered that the Institution had not the confidence of the Medical Profession. This was later on shewn to be the case, for on November 15th Councillor Dr. Douglas submitted a memorial to the Town Council, of which the following is a copy :—

TO THE RIGHT WORSHIPFUL THE MAYOR, (JOHN WRIGHT WAYMAN, Esq., J.P.), ALDERMEN, AND COUNCILLORS OF THE BOROUGH OF SUNDERLAND.

We, the undersigned Physicians and Surgeons, practising in Sunderland, desire respectfully to call your attention to the inadequate and unsatisfactory accommodation provided at the House of Recovery for the treatment of Infectious Diseases. In his report to the Local Government Board, "On the use and influence of Hospitals for Infectious Diseases," DR. THORNE (referring to the Sunderland House of Recovery) very properly remarks, "With regard to this Hospital, it "must be admitted to have many drawbacks. Having been procured "on a sudden emergency, the Sanitary Authority had but little if any "choice as to the building or the site. The former is ill-adapted to the "safe reception of more than one infectious disease at a time. The "site has the disadvantage of a bad approach through Dunning Street, "a narrow thoroughfare lined on either side by poor dwellings." DR. THORNE also points out that "The Hospital stands in a thickly- "populated neighbourhood, and that houses closely adjoin it."

1882 REPORT. — Having regard to the great importance of isolating in Hospital in distinctly separate groups as many cases as possible of Infectious Diseases, and believing that a Hospital for Infectious Diseases, well-adapted to its purpose, and efficiently managed, would ensure the confidence of the Medical Profession, and that the public would avail themselves of it, to the great benefit of all classes of the people, we very respectfully but urgently express the hope that no time will be lost in providing Sunderland with a Hospital in every way worthy of the town.

(Signed)

Henry O. Bowman, M.D.
 Edwin Allan Maling.
 James Murphy, M.D.
 William O. Lambert.
 James Barron.
 George Welford.
 Thomas T. Hopgood.
 Chas. Henry Welford, M.D.
 G. Edward Welford, M.D.
 Chas. Fairfax Nursey.
 Chas. Nattrass, M.D.
 Harry Drinkwater, M.B.,
 M.R.C.S.
 C. H. Foote, M.D.
 W. H. Dixon, M.D.
 L. Blumer, M.D.
 John Davis.
 Geo. Bolton.
 A. Bruce Low, M.D.

James Smith.
 George S. Brady, M.D.
 J. W. Beattie.
 H. B. Allan.
 James Berwick.
 Jas. Waterston.
 T. Coke Squance.
 John Horan.
 Thos. Fell.
 Frank Lang.
 Geo. Berwick.
 Benjamin Strachan, M.B.
 P. A. Pearcey.
 J. J. Mackay.
 R. G. Gammage.
 R. W. Shelley.
 S. Willans.
 R. Dale.

Councillor Dr. Mordey Douglas brought forward the motions, of which he had given notice, namely—

1. “To present a Memorial from the Members of the Medical Profession, residing in Sunderland, and to move that the Council appoint a Committee to consider the desirability of obtaining land for the purpose of erecting thereon, without delay, a Hospital for Infectious Diseases.”

2. “And to appoint such Committee.”

Which was seconded by Councillor W. S. Wilson.

Moved, as an amendment, by Councillor Fairless, and seconded by Councillor Bruce—

“That the subject of further Hospital accommodation be left in the hands of the Health Committee.”

On a division 24 voted for the amendment and none against.

The amendment was therefore carried, and it was resolved accordingly.

On the 26th October the following letter from the Chairman 1882 REPORT.
of the Infirmary Committee was read relative to the House of
Recovery :—

“Sunderland and Bishopwearmouth Infirmary,
“17th October, 1882.

“To the Chairman and Members of the Health Committee, Sunderland Corporation.

“The Committee of the Sunderland Infirmary beg respectfully to call the attention of the Local Authority to the inadequacy of the House of Recovery in Dunning Street. It may be remembered that in April, 1879, an arrangement was come to by which the Committee of the Infirmary was allowed to send cases of Infectious Diseases to the Hospital on the payment of one guinea per week for each case, and the Committee have availed themselves of this privilege to a certain extent.

“It appears, however, that there is no provision made at Dunning Street for the proper segregation of the diseases, and the Committee do not feel that it is right to expose their patients to the additional and serious risk arising therefrom; that for example, a case of Measles should be exposed to Scarlatina or Typhus.

“Although the Committee of the Infirmary fully recognise the difficulties which surround the question, yet they would strongly urge upon the Local Authorities the absolute necessity of their providing such Hospital accommodation as under the Health Act of 1875, they have power to do, so that infectious diseases could be properly and separately treated, and which would have the confidence of the public, and thus be made available as a means of suppression of Zymotic Diseases.

(Signed) “E. C. ROBSON,
“Chairman of the Infirmary Committee.”

This important communication was referred to a Sub-Committee consisting of the Chairman, Vice-Chairman, Alderman Bell, Councillors M. Douglas, S. Alcock, and R. A. Smith.

The Sub-Committee met on the 30th of October, 1882, and it passed the following resolution :—

Resolved, “That it be reported to the Health Committee that this Sub-Committee have considered the letter from the Infirmary Committee, and are of opinion that the first allegations of such letter, stating the inadequacy of the House of Recovery in Dunning Street, is substantially correct, Dr. Harris having reported that during the month of September there were at one time in the House of Recovery cases of Smallpox, Typhus, Typhoid, Measles, and Scarlet Fever, and that in consequence of not having proper means of isolation of such cases, one man becoming convalescent from Smallpox took Measles; and the Sub-Committee recommend that the whole question of Hospital accommodation should be referred to a Special Sub-Committee.”

The report from me, referred to in the above, was the following, and was dated October 12th :—

“I have had on one occasion to refuse admission to a patient for three days (because I had no available ward at my disposal), and then he was admitted into a ward from which a Typhoid patient had been removed. The room had meanwhile been several times washed, fumigated, and disinfected.

1882 REPORT.

“At this time there were two wards upstairs empty, and a-third occupied by a Smallpox patient. As it is not possible to effectually isolate disease in the Institution, and as this disease is so infectious and virulent, I did not dare to place him (*i.e.* the patient awaiting admission) in any of these wards.

“I regret to have to report that the sailor, C———, who has been in Hospital some time with Smallpox, and who had become convalescent and was about to be discharged, has been attacked with Measles contracted in the Hospital.”

The Report of the Sub-Committee came before the Health Committee on the 10th of November, 1882, when it was “Resolved that the report be received and adopted, and the matter be referred to the above named Sub-Committee, with the addition of Councillors Waddle and Stiles.”

On the formation of this Special Committee I at once determined to lay before the Local Authority and the Special Sub-Committee a report on the general condition of the Hospital. I accordingly prepared the following statement for presentation to the Council in my Annual Report, and I also read it to the Special Committee which met on March 16th, 1883 :—

During the twelve months, 44 persons have been received into the Hospital. This is an increase of 11 patients in the preceding years, and is the largest number ever treated in the Institution, except in 1871. This number, when the size of the Borough is considered and the large number of Infectious cases that are known to have occurred, can not be considered satisfactory.

The number of cases, together with the diseases, admitted since the establishment of the Institution, was as follows :—

	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	Total.
Smallpox	128	11	.....	.....	.....	1	1	.....	.....	1	3	3	148
Measles	1	1	.....	1	.....	.....	.....	3	.....	2	2	7	17
Scarlet Fever ....	.....	.....	.....	.....	.....	.....	1	30	11	24	17	8	91
Enteric „ ....	.....	.....	.....	.....	.....	.....	10	3	5	3	8	16	45
Typhus „ ....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	4	6
Continued „	2	.....	.....	.....	.....	.....	1	2	1	.....	.....	4	10
Diphtheria .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Dysentery .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	2
Erysipelas .....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	1	4
English Cholera..	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Totals	131	12	0	1	1	2	14	40	18	31	32	44	325

The following table gives the average number of patients in 1882 REPORT. the Hospital per day in each month of 1882, and the number of days in each month on which the Hospital was unoccupied.

	Jan.	Feb.	March.	April.	May.	June.
No. per day..	0·6	1·9	1·8	3·0	1·4	0·7
Days empty..	9	0	0	0	0	18
	July.	Aug.	Sept.	Oct.	Nov.	Dec.
No. per day.	0·16	1·5	6·3	5·4	6·3	2·9
Days empty..	25	4	0	0	0	0

The average number of patients in Hospital per day for the year was 2·6. Total days empty 56.

I have frequently urged on persons the necessity of isolating their sick, and of embracing such protection as the Fever Hospital affords, but without avail, except in few instances.

Now, one great cause of this in the Borough is the extreme reluctance of the poorer classes of the population to part with those, who are dear to them, in the time of illness. This feeling was especially strong among the Irish portion of the population, who here as in Ireland, evinced the strongest repugnance to separate from each other. They would neither go into the Union nor into the Fever Hospital, although I have offered many free admission; and several of those who embraced the protection afforded by the Union Hospital, did not do so until poverty compelled them, at last, to give a reluctant consent.

Another reason alleged as the cause of persons refusing to enter the Corporation Fever Hospital is that the place has received a bad name, and that persons believe it will afford them no protection that they can not, equally well, obtain at home. I am bound to say at once that during the year, with one exception, no persons ever made that objection to myself, and, therefore, I can not very well say how far the opinion prevailed. At all events, the Institution *does not enjoy the confidence of the Medical Profession of the Borough*, and, therefore, I believe, they do not recommend patients to enter it. This is the true reason why the Hospital has not, and can not be, successful.

1882 REPORT. Now, it will be well to consider why it is that the Profession do not look on it with favour. In brief, it is this—they do not consider it is capable of isolating more than one, or at the outside two, Infectious diseases. With this opinion I must frankly confess my complete concurrence. During the year I had an instance of a man, who when convalescent from one disease contracted another, although the wards were as far apart as it was possible for them to be, one being downstairs, and the other upstairs.

A description of the Hospital will not be out of place, as comparatively few members of the Sanitary Authority have visited it. That portion of the building which contains the wards is two stories high, having four rooms on each storey.

On the ground storey, three of the rooms are wards, and one room is used as a sitting-room for the Nurses. A hall divides these rooms into sets of two, having their doors facing each other. A similar arrangement exists on the second storey, three rooms being wards, and one the Doctor's room.

In one corner of the Nurse's sitting-room there may be noticed a large square box like protuberance coming through the ceiling. This is part of the W.C., which is built on the stairs landing. Anything more unpleasant than this closet was on one occasion I can not conceive. It had only just been used, and I was informed by the Matron that now and then the smell from it was "bad."

The cubical contents of, and number of beds in, each Ward, are as follows :—

- No. 1—(right, downstairs)—3 beds—cubical contents, 3,605 cubic feet—1,201 cubic feet per bed.
- No. 2—(left, downstairs)—4 beds—cubical contents, 3,885 cubic feet—971 cubic feet per bed.
- No. 3—(back room)—4 beds—cubical contents, 4,160 cubic feet—1,040 cubic feet per bed.
- No. 4—(right room, front upstairs)—3 beds—cubical contents, 3,564 cubic feet—1,188 cubic feet per bed.
- No. 5—(left room, front upstairs)—4 beds—cubical contents, 3,906 cubic feet—976 cubic feet per bed.
- No. 6—(left room, back upstairs)—3 beds—cubical contents, 3,411 cubic feet—1,137 cubic feet per bed.

Now, I must point out that in every instance, except one, the cubical contents of the wards are insufficient. The recognised minimum space adopted in this country for Fever beds is 2,000 cubic feet, and on this calculation each bed in each ward will be deficient by the following space :—

No.	Cubic space Deficient per bed.
1	799
2	1029
3	960
4	812
5	1024
6	863

Now, here we have a state of things which is regrettable, and which must naturally influence Medical Men, who know the vital necessity of fresh air, in the treatment of Fever, in recommending patients to avail themselves of the hospital shelter. This deficiency of space is bad, but the fact that the wards are unventilated, except by means of Dr. Hinkes Bird's blocks, placed underneath the window-sashes, and possess no egress ventilation of any kind, except the chimneys, renders the condition of things far worse. And, it is no wonder, therefore, that on many occasions I have found a strong fever smell on entering a ward. In fine weather this can be greatly abated by opening the hall door in front and the large window at the back, whereby a current of air is carried through the house, but at other times this is impossible, owing to the rush of cold air and wet into the house.

The doors of the wards, and of the Nurses' room downstairs, open into the hall, two at each side, and directly facing each other, thus affording easy opportunity for the germs of disease to float from one room into the ward opposite. But it may be said—"The doors should be closed, and then this can not happen." As a rule, the doors are closed, but at times, for the sake of ventilation, it is imperative to open them. I would also point out that even supposing the ward doors be closed, yet it is always possible for disease germs, especially in the case of Scarlet Fever, to float into the passage, and thence into the opposite ward, on the door being opened for the admission of the officials.

The Ward
Doors.

1882 REPORT

Upstairs, the wards are exactly similarly placed, and the remarks that apply to those downstairs will also apply to them.

Baths.

In Modern Hospitals, a bath off each ward is one of the first requisites, yet the Fever Hospital is provided with only one, and this is in such a position as to be seldom or never used. To get to it from any of the wards it is necessary to pass through the Nurse's room, through the kitchen, up three or four steps, and then you find yourself in a cold chilly room, which was once a large pantry. In the corner stands an iron bath, in all its simplicity—not even a bit of woodwork around it to take the cold look from it. Its look alone—without any other of its surroundings—would cause a patient an unpleasant feeling.

W.C.

Again, there is only one W.C. for patients, and this is placed on the level of the first flight of stairs. Consequently, patients who have to use it are compelled to ascend or descend one flight of stairs. I have never allowed it to be used with my knowledge, lest patients should contract Infectious disease other than that for which they entered the Hospital.

Appliances.

The Hospital is destitute of nearly all appliances calculated to promote the comfort of the patients. Thus, for instance, there are no bed chairs to support the invalid. Yet this is an apparatus the necessity of which is patent to every one.

There are no air-beds, and yet it is an absolute necessity for the treatment of persons who unhappily contract bed sores.

The bedsteads themselves are of the simplest kind, being covered with mattresses which are not the very best. These bedsteads should all be supplied with spring bottoms, instead of the ordinary lattice work.

Speaking generally, there is a great deficiency in the general furnishing of the Institution.

The Charge for Admission.

One objectionable feature in the management of the Hospital is the charge made on patients, or their friends, for their support. This is a great error, and must of necessity detrimentally effect the usefulness of the Institution. As a rule, persons do not enter hospitals willingly; they have generally to be pressed a

considerable time before, at last, they give a reluctant consent, and then when they acquiesce, and payment is spoken of, they invariably withdraw their promise. The general question put to me is, "Why should I pay for my treatment? The Health Authority does not desire to place me in Hospital for my individual safety, but for the protection of the public, and therefore it should not charge me for doing a public good." The argument is unanswerable. It is not fair to make any person pay for rendering a public service, and I hold that a great public service *is* rendered by the person who enters an Infectious Diseases' Hospital, for he, thereby, removes from amidst the community, a disease which may become the focus of innumerable deaths.

A burning house is a great public danger, and we pay persons to put it out, lest it should burn down other properties. But compared to a case of disease, such as Smallpox or Scarlet Fever, it is but a small matter, and yet we make the afflicted person pay, for allowing the disease to be stamped out. The absurdity is apparent on the face of it. If our Hospital, or any other Hospital owned by a Local Authority is to perform good work it must be free, and throw open its doors to all who will enter. All the stricken should be welcome there.

During last year £81 13s. 4d. was received from 37 patients.

The chamber in use is constructed so badly that it takes many hours to raise the heat sufficiently high to destroy the germs of disease in the clothing. In addition to this, owing to defective heating pipes, and defective flues, smoke finds its way into the chamber and injures the clothes. Indeed, once or twice, flames have found an entrance. It is only by the closest attention, and by occasionally opening the chamber to see that nothing wrong is taking place that clothing, &c., escape injury.

Disinfecting
Chamber.

When I entered on my duties in the early part of the year I found that the staff of the Hospital was one Nurse—who was also Matron, and had complete charge of everything in the Institution—and her husband, who looked after the disinfecting chamber, when required. When not engaged on either of these duties he was employed as a street sewer ventilator man.

Staff of the
Hospital.

1882 REPORT. — In the early part of the year the deficiency of the staff, and the mild type of the diseases received, did not cause much anxiety as to the nursing, but when the cases became more numerous, and the character of the disease bad, then matters became serious. And it was decided by the Committee that a person should be employed, who should live in the lodge attached to the Hospital, and who would be available when required. This was done, and resulted in the increased efficiency of the nursing.

I think, however, that two Nurses are not enough for the Institution. I am aware that at times, if the staff were larger, there would be nothing for the Nurse to do, and, consequently, the Borough might be put to considerable expense. To obviate this I would suggest that the Sanitary Authority engage the services of half-a-dozen Nurses, at a nominal retaining fee, who would be prepared to enter on duty whenever called on. As it is, there is the very greatest difficulty experienced in engaging Fever Nurses in an emergency. By doing this a great good would be effected, and a heavy responsibility removed from the shoulders of the Medical Officer.

SANITARY REPORT.

Considering that there are only two Inspectors of Nuisances for the Borough, the sanitary inspection was satisfactorily, and, as far as possible, systematically carried out. The great prevalence of Zymotic diseases in the 3rd and 4th quarters of the year, compelled Inspector McKay to be employed almost entirely in removing patients to Hospital, fumigating houses, destroying infected clothes, or in sending them to the disinfecting chamber. At work of this description he has on many occasions been employed from six o'clock in the morning until eleven o'clock at night. This work has been performed to my entire satisfaction, and reflects credit on the Inspector for the prompt manner in which it has been performed.

SANITARY
REPORT, 1882
--

Notwithstanding that so much of the time of one of the Inspectors was so fully occupied, yet during the year, 4,150 notices were served on persons for various sanitary offences. Of this large number it was only necessary in 62 cases to summon the offenders before the Magistrates, and in 9 instances only did the cases come on for trial, for, as a rule, the nuisances were abated before the day of hearing. Under these circumstances, the complaints were withdrawn on the offenders paying the costs.

During the year, 514 nuisances were reported at the Health Office, and were attended to by the Inspectors.

109 notices to close cellar dwellings, and abate overcrowding, were served. Several of these cellars were afterwards so altered as to comply with the requirements of the Public Health Act, 1875.

Overcrowding
and
Cellar Dwellings

A weekly inspection of the Slaughter Houses was made during the year by Inspector Jobling, and, generally, they were found to be kept in a cleanly condition. In very few instances the butchers were detected retaining the offal and blood on their premises for a longer period than allowed by the bye-laws. As a rule, the butchers evinced the greatest anxiety to get rid of their refuse.

Slaughter
Houses.

Indeed, during the year, a deputation of butchers waited on the Health Committee to ask them to make an arrangement whereby the Corporation would systematically collect the blood and offal from the slaughter houses. The Committee could not, however, see that they could undertake work of this kind, and decided, after a long discussion, that the butchers must arrange privately for the removal of all refuse from their slaughter houses and shops.

Slaughtering
in Shops.

Many of the Butchers kill their cattle and sheep in the shops, and have their lairs on the premises. The consequence is that it is no uncommon occurrence to find groups of children, and sometimes grown-up persons, collected about a shop witnessing the felling of a beast or the sticking of a sheep. Apart, altogether, from the moral point of the question, I would point out that this public method of slaughtering cattle is likely to cause a severe shock to persons who are of a nervous temperament. I know of two instances in which ladies were attacked with hysteria, through seeing beasts felled as they passed an open door, and one of these cases occurred in a most public part of High Street West. I regret to observe that there is no clause in the Bye-laws which govern these shops to compel the butchers to close their premises while killing is going on.

The necessity of a Public Abattoir in the Borough is great, and I would recommend it to the consideration of the Sanitary Authority, on the following grounds:—

- 1st.—That as the greater number of the slaughter-houses are merely shops with wooden floors, the latter can not ever be efficiently cleansed of blood, some of which, despite all precautions, will be absorbed by the wood, and afterwards give off emanations that will injuriously effect the meat.
- 2nd.—That it will remove to one centre the effluvium nuisances that are inherent to all butchers' shops.
- 3rd.—That it will prevent the possibility of diseased meat being offered for sale.
- 4th.—That it will prevent unnecessary cruelty to animals.
- 5th.—That it will lessen the risks at present incurred by the public by cattle being driven through all parts of the Borough.
- 6th.—That it will remove from our streets the possibility of any persons being so shocked as to induce illness.
- 7th.—That it will remove from children the demoralizing effect which familiarity with the sight of slaughtering must have on them.

I believe the Health Committee are quite alive to the importance of this question, and that they will seek power to erect a Public Slaughter House in a local Act of Parliament, which the Corporation intend to apply for next Session.

SANITARY
REPORT, 1882.
—

The Common Lodging Houses of the Borough received particular attention during the year, and were frequently visited, both by night and day, by Inspector McKay and myself.

Common
Lodging
Houses.

In the early part of the year I made a midnight inspection of every Common Lodging House in the Borough. I found them generally well looked after, clean, and orderly. In only a few instances the rooms contained more persons than the number for which they were registered. I noticed, however, that nearly every nook and cranny, through which fresh and pure air could gain admittance, was most vigorously closed up. In many instances the chimneys were boarded over, and where this was not the case, they were invariably found to be stuffed with sacks full of straw, or with something equally efficacious. The result, of course, was that the air in the rooms was heavy and foetid—such an atmosphere, in fact, as would create Typhus Fever, or Phthisis. Happily this condition has now been put an end to, and on the last occasion that I went around at night, I found a much better state of affairs.

Midnight and
early Morning
Visits.

During the day the owners of these houses fully comply with the regulations laid down in the Bye-laws, particularly in respect to the opening of all the windows.

Acting on my recommendation, the Health Committee have refused to license houses in which 400 cubic feet of air per person is not provided. Up to last year, the minimum was 300 cubic feet. The result has been a marked improvement in the houses where the new regulations have been enforced.

A few cases of Infectious disease occurred in them during the year, which, with one exception, were immediately reported at the Health Office. In the exceptional case, the owner of a house in Spring Garden Lane had his wife ill with Typhus for several weeks.

It is satisfactory to note that the important work of paving the streets, in accordance with a determination of the Council, was carried out more vigorously than in previous years. This will, doubtless, have a salutary effect on the health of the town, for undoubtedly the present condition of some of the unpaved streets and roads is deplorable in wet weather.

The following is a list of the work done during the year :—

PUBLIC PAVING, 1882—

Sheepfolds South, paved from Macadam to Granite Sets—
Cost £207 1s. 3d.

PRIVATE PAVING, 1882—

John Candlish-road	West back Hendon-terrace
Rothsay-street	South back Short-street
Cooper-street	Cross-street, from Robinson-terrace to South back Short-street
Cross-street, from Newcastle-road to East back Rothsay-street	West back Warwick-street
East back Salem-street South	Cross-street, from Linden-terrace to Howard-street
West back Franklin-street	North back Henry-street East
North back Allen-terrace	Bond-street
Burlington-road	Byron-street
South back Ridley-terrace	North back Chilton-street
East back Bull-street	South back Chilton-street
South back Holly-terrace	South back Finsbury-street
North back Oates-street	South back Byron-street
North back Hylton-road West	East back Kingsley-street
North back Wyndham-terrace	Back-street, from Kingsley-street to East back Kingsley-street
South back Cleft-street	Suffolk-street
North West back Cleft-street	Chilton-street
East back Rudland-street	Finsbury-street
Cross-street, from Chester-road to North West back Cleft-street	East back Stanley-street
South back Mainsforth-terrace	Cross back-street, from Stanley-street to East back Stanley-street
North back Mainsforth-terrace	Burlington-road
East back Potts-street	East back Thompson-street
East back Washington-street	West back Alfred-street
North back Australia-street	
East back Hood-street	
East back Warwick-street	
East back Rothsay-street	

Total Approximated Cost—£7,500.

STREETS ORDERED TO BE DONE.

The following is a list of the streets ordered to be paved during 1883, and for which money has been borrowed:—

SANITARY
REPORT, 1882.
—
Street Pavement

Albert-road	West back Bell-street
Pensher-street	Cross-street at West end of
Clazey-terrace	Duke-street and Ogden-street
Wearmouth-street	Lumley-strcet
Cross-street, off Whitehouse-road	Offerton-street
Marlborough-road	Howard-street South
East back Bell-street	Clanny-street
West back Aiskell-street	Tunstall-vale
East back Cromwell-street	Saint Mark's-road
West back Clazey-terrace	Saint Mark's-road North
South back Ropery-road	Swinbank-street
South back Pensher-street	Mordey-street
West back The Avenue	Short-street
Cross back-street, from Ravens-	North back Lumley-street
worth-terrace to West back	North back Offerton-street
Ravensworth-terrace	North back Pensher-street
East back Villiers-street South	East Back Hylton-street
Back-street, from Sans-street	North back Houghton-street
South to East back Villiers-	West back Hylton-street
street South	East back Merle-terrace
West back Villiers-street South	East back Woodbine-terrace
North back Ward-street	East back Ditchburn-terrace
South back Rock-terrace	West back The Royalty
West back Woodger-terrace	North back The Retreat
West back Ravensworth-terrace	West back Bellevue-crescent
West back Gladstone-street	Cross back-street, from Bellevue-
East Back Pallion-road	crescent to West back Belle-
Back-street leading from Pallion-	vue-crescent
road to East back Pallion-road	East back Woodside
West back Marlborough-street, off	Cross back-street, from East back
Waterworks-row (part of)	Woodside to Azalea-terracc
East back Marlborough-street, off	East back The Avenue
Waterworks-road	North back Ward-street
South back Stanhope-street	North back Sea Banks-place
East back Broxbourne-terrace	Cross-street, from Short-street to
North back Vicarage-terrace	North back Short-street
Back Priestly crescent	Cross-street, from Tower-street
West back Page-street	to North back Tower-street

(ORDERED PLANS NEARLY READY.)

Handel-street	West back Gilsland-street
Chester-street	South
Toward-road (part of)	North back Wilson-street
Hartington-street	East back Mordey-street
Brandling-street	West back Mordey-street
Howard-street	North back Roker-avenue
Cross back-street from Ravens-	West back Gladstone-street
worth-terrace to West back	
Ravensworth-terrace	

In consequence of the great size of the Borough, two Inspectors of Nuisances are, in my opinion, totally inadequate to cope with all the duties imposed on them by the Public Health Act of 1875. During the year, the prevalence of epidemic disease caused Inspector McKay's time to be almost wholly monopolised in either removing patients, disinfecting houses, or destroying clothes.

On December 5th, I reported to the Health Committee that

“In Sunderland there are only two Inspectors. Their duties are numerous, and more than it is possible for them to discharge with anything like efficiency.

“I have no fault to find with the manner in which their work is discharged. Indeed, the record of notices served by them to abate nuisances will compare favourably with any town in the United Kingdom.

“The time of the Chief Inspector is entirely occupied in visiting houses where Infectious disease is known to exist, in removing patients to Hospital, in fumigating houses, in superintending the removal of clothes for disinfection, and seeing that articles of infected bedding or clothing, not fit for use, are burnt. In the performance of these duties he has been employed early and late, often from five a.m. until late at night. There is very little time left for the discharge of any other duties.

“On the other Inspector devolves a great part of the general duties of the Borough. He is also Inspector of Meat, and this duty occupies a considerable portion of his time.

“It is clearly impossible in a town of the size and population of Sunderland, that the Inspectors can do more than attend to the nuisances which are on the surface. Minute enquiries are almost impossible as to the existence of concealed nuisances, which are invariably the most injurious to health, as they often exist within the precincts of the people's houses. I should also mention that they are compelled to spend the greater part of at least one day in the fortnight at the Police Court in appearing against offenders.

“In most large towns it is now a practice to carry out, as far as practicable, a house to house visitation, so that the people may not overcrowd, nor suffer from any defective sanitary arrangements, nor from neglect of the property owners.

“In no town is this more requisite than in Sunderland at the present moment, when there are fully 130,000 people living in the Borough.

“The cost of two additional Inspectors will not exceed £200 a-year, and it is certain that no money could be better spent. By the prevention, or speedy removal of nuisances, health will be preserved, and the outlay will be only a small matter compared with the good that must accrue to the public.”

The subject was referred to a Special Sub-Committee, who are now considering the report.*

* Since the above was written the Sub-Committee have unanimously recommended the appointment of two additional Inspectors of Nuisances. The Health Committee also agreed to it, and the Town Council unanimously passed the proposal.

The cleansing of the ashpits, from the time of my appointment as Medical Officer of Health for the Borough, caused me considerable anxiety. When I came here, it was the custom to empty them daily between the hours of 4 a.m. and 2 p.m. in Summer, and between the hours of 5 a.m. and 3 p.m. in Winter. The result was that many complaints reached me of the nuisance this caused, and it was a subject of many newspaper complaints. I, therefore, took the matter in hand, and I reported on June 8th, to the Health Committee, as follows :—

SANITARY
REPORT, 1882.
—
Cleansing of
Ash-pits.

“Just now, owing to the possibility of a considerable amount of Fever occurring during the Summer, I am very anxious that nothing should be done by the Corporation in their scavenging arrangements that could possibly be a factor in its propagation. I would, therefore, desire that a small Sub-Committee be appointed to consider the advisability of, and, if necessary, to make arrangements for, carrying out the Ashpit cleansing at night. The present system of doing so much of it during the day meets with my strong disapproval.”

The Sub-Committee was appointed, and to it I made the following report :—

“It is well known that cleanliness and health are, so far as Zymotic diseases are concerned, nearly convertible terms, as are also filth and disease. If, then, we desire to lessen the latter we must, in the first instance, endeavour either to do away with the filth, or, if that be not possible, to remove it periodically from our premises in such a manner and at a time that it will be least injurious to the public health.

“Now, among the ashpit refuse we have a large accumulation of bowel discharges, which, coming from infected persons, are likely to be a fruitful source of Zymotic disease. Whenever, then, we disturb the ashpits we also cause the discharges, &c., to be disturbed, and these give off into the air minute particles that may cause, if inhaled, Fever, Diarrhœa, or severe gastric disturbances, not to mention headaches or deranged stomachs.

“Now, in the last ten years there have been 1500 deaths from Scarlet Fever, and I have very little doubt in my own mind that much of the disease has been contracted by children when playing around the refuse heaps as they lay on the streets prior to be thrown into the cart. I have been astonished at the large percentage of deaths from Scarlet Fever, the origin of which cannot be ascertained.

“I will only further add that the great unpleasantness caused, by emptying ashpits during the day, to the passers by, is in itself almost a sufficient reason to consider the advisability of altering it to the night time.”

Again, on December 5th, I reported as follows to the Health Committee :—

ASH-PIT SYSTEM.—There are in the Borough about 11,500 ash-pits,* each of which has a privy attached. The ash-pits are generally large, and can hold from 3 to 4 loads. They are so constructed that the ashes are thrown through a hatch placed about four feet from the ground level. Owing to the manner in which the privy is constructed, it is an absolute impossibility for cinders to cover the fæces. By far the larger number of the ash-pits are exposed to the influence of the weather, and as animal and vegetable refuse, and very frequently house slops, are freely deposited in them, decomposition is speedily set up, noxious vapours given off, and the general result must be most injurious to health.

The excreta, not being covered, decompose quickly. It must be recollected that putrefactive decomposition sets up, in ordinary weather, within three days, and the emanations from this decomposition must tell very much against even the strong, more especially when it is recollected that three months often elapse before the removal of the ashpit contents. In the back streets, any person with a keen nostril can often smell the putrescent matter, and if it were possible to walk over a row of ash-pits, the smell would be found intolerable. The great evil of the ashpit system is that dirt is deposited out of sight, and it is forgotten or neglected until such time as it becomes unbearable. The emptying of these ashpits is a work that, with the present staff, severely taxes the resources of the Scavenging department. There are 26 horses always engaged at it. The matter has constantly received my anxious attention, and I have always impressed on the Inspector of Scavengers, and on the Foremen of the Districts, on no account to neglect this part of the work. During the year there were 34,940 ash-pits, containing 44,140 loads, each load weighing about a ton and a quarter, emptied. The average number of times each ash-pit is cleansed is $3\frac{1}{2}$ times a year.

In consequence of the putrescible nature of excreta, scavenging should be arranged so as to secure removal as quickly as possible.

The public themselves can mitigate the nuisance arising from decomposing vegetable refuse, which mainly consists of potato peelings, cabbage leaves, turnip skins, and such like, by burning them on their fires. It is very easy, more especially among the wealthy, to burn this refuse in the kitchen fires, although among the poorer people the necessary fire is not always large enough to accomplish their destruction satisfactorily and quickly.

The Health Committee are very anxious to carry out a block system, and a strong effort is being made to ensure success.

At present the Corporation employ their own horses, but I am of opinion that this causes increased expense. I am, however, desirous of letting the cleansing of ash-pits to contract, believing that the work can be done more cheaply. In other towns this system is found to work admirably.

*This is an error. There are 14,155.

The health of Sunderland suffered severely during the past year, and I am inclined to think that periodically it may again similarly suffer if the present system of large middens be not entirely abolished. This, to my mind, is the great Sanitary question which the Health Committee, sooner or later, will be compelled to take into serious consideration. At a conference on the Health and Sewage of Towns, held under the auspices of the Society of Arts, in 1876, the Executive Committee, having first carefully considered the information furnished from various localities, as well as the facts brought forward during the conference, came to the following conclusions:—

“The old privy or midden system, in populous districts, should be discontinued, and prohibited by law.”

And again that—

“For health’s sake, without consideration of commercial profit, sewage and excreta must be got rid of at any cost.”

I am strongly of opinion that the water carriage system should be far more generally adopted in the Borough, more especially as the sewage can be got rid of so easily by being carried to the sea. Water Carriage.

The great objection to its general adoption is that the working classes do not properly understand the use of W.C.’s, and that where the latter are fitted up, they are a greater nuisance than a blessing. This is true to a certain extent. It must be recollected, however, that the closets are, as a rule, of an obsolete pattern, and situated in most undesirable positions.

I would recommend for tenemented houses latrine closets, supplied with water from self-flushing tanks, holding from 12 to 20 gallons of water, which would discharge themselves once in every 12 or 24 hours, according to the requirements of the tenants.

A system such as this would require only the minimum of inspection from the Sanitary Authority, while at the same time it would ensure the speedy removal of all excreta, and thereby promote the health and comfort of the people.

During the year, the following articles of food were analysed— Food
Adulterations.
Milk, 28 samples; butter, 4; coffee, 4; mustard, 5; lard, 12;

SANITARY
REPORT, 1882.

—
Personal
Thanks.

pepper, 3 ; soda water, 1 ; rice, 1 ; bread, 1 ; flour, 1 ; whiskey, 2 ; in all, 62 samples.

The general character of the milk supply was good, no sample being adulterated. Coffee was found adulterated with chicory in two instances, lard with water in four cases, and butterine was sold for butter by two persons.

Conclusion.

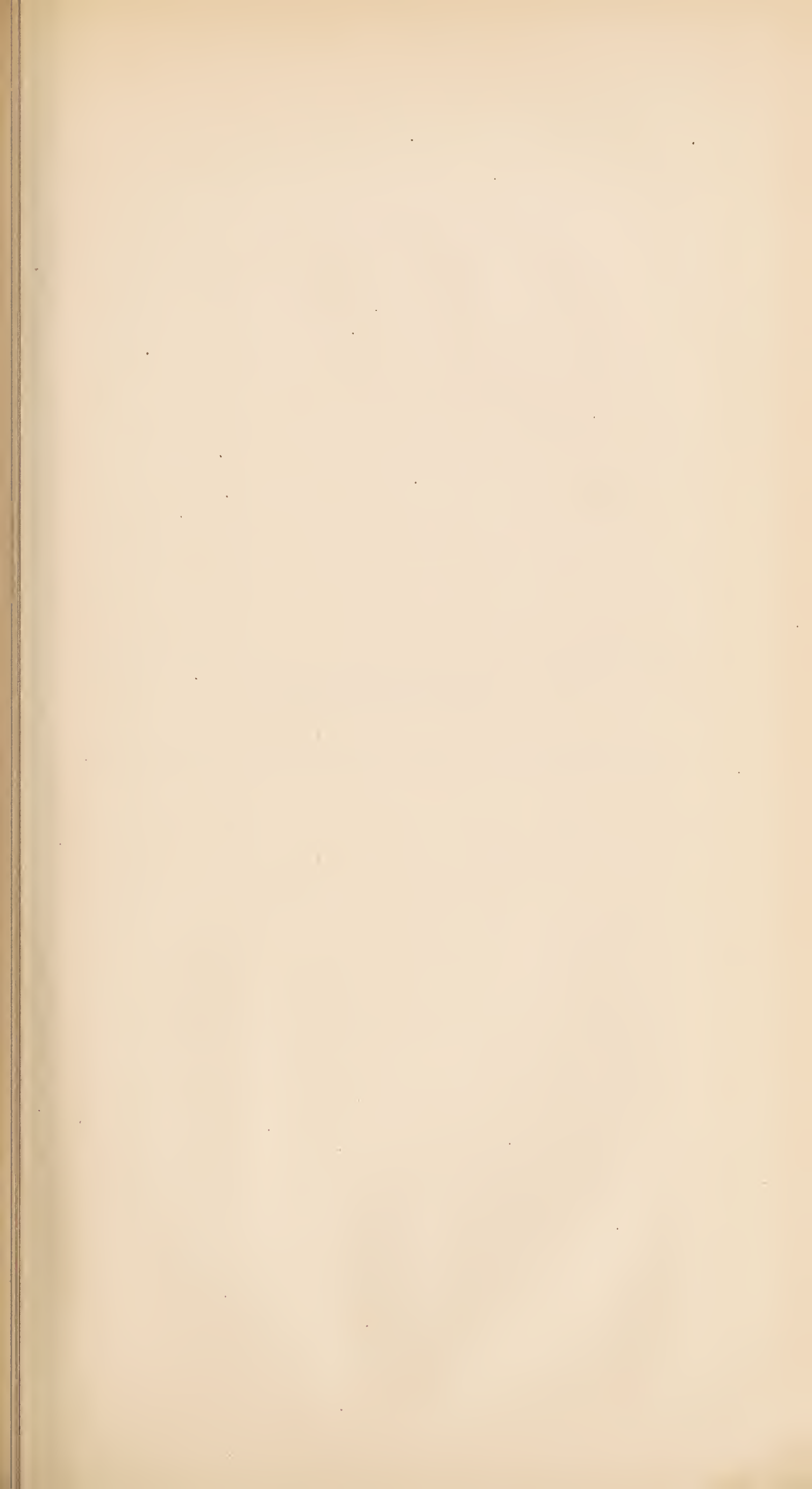
In conclusion, I have most heartily to thank Mr. Councillor Rickaby, the Chairman of the Health Committee, for the manner in which he has assisted the Health Department in carrying out their onerous duties. I thank him for myself, and on behalf of the other officials, each of whom feels that he is considerably indebted to him for valuable advice and assistance, which was afforded at all times ungrudgingly, and, I am sure, often at great inconvenience. Few persons, I believe, really know the large personal interest the Chairman has taken in the Health Department, or the great anxiety which he felt, particularly during the later months of the year, that nothing should be left undone to promote the health interests of the Borough.

I have also to thank Inspector McKay for the manner in which he discharged the duties devolving on him, which, during the year, were far more responsible, and heavy than usually fall to the lot of an Inspector. He has worked hard, early and late, and he has done his work willingly and zealously, irrespective of all consequences to his own health.

To Inspector Jobling I also desire to express my appreciation of his zeal in performing his work, which, through Inspector McKay's time being so much occupied with Infectious disease, was unusually severe.

Mr. Wilkinson, the Inspector of the Cleansing Department, has also done his work carefully and well, and has endeavoured to leave nothing undone that might secure the speedy removal of the midden contents, during a time when the demands to empty ash-pits were very heavy.

Lastly, I would express my thanks to the Clerk, Mr. William Ferguson, who performed the work of the office in a most painstaking manner, winning for himself the approbation of the Chairman and the higher officials.



APPENDIX.

TABLE OF BIRTHS
Registered in the Borough, for the Year ending December 31st, 1882.

DISTRICTS.	Population.	First Quarter.		Second Quarter.		Third Quarter.		Fourth Quarter.		Totals.		Total.	Rate per 1,000.	Rate per 1,000 in 1881.
		M	F	M	F	M	F	M	F	M	F			
Sunderland East.....	9,298	56	54	44	42	31	39	41	38	172	173	345	37.1	24.1
Sunderland West	5,993	35	23	28	30	25	36	21	39	109	128	237	39.5	25.5
Bishopwearmouth North ..	36,842	198	194	220	220	194	193	182	185	794	792	1586	43.0	43.5
Bishopwearmouth South ..	39,904	181	225	207	179	197	175	195	174	780	753	1533	38.4	38.2
Monkwearmouth.....	27,028	130	145	155	146	154	153	154	151	593	595	1188	43.9	34.9
Whole Borough.....	119,065	600	641	654	617	601	596	593	587	2,448	2,441	4,889	41.0	39.5
Totals	119,065	1,241		1,271		1,197		1,180		4,889		4,889	41.0	39.5

TABLE OF DEATHS

Registered in the Borough, for the Year ending December 31st, 1882.

DISTRICTS.	Population.	First Quarter.		Second Quarter.		Third Quarter.		Fourth Quarter.		Totals.		Total.	Rate per 1,000.	Rate per 1,000 in 1881.
		M	F	M	F	M	F	M	F	M	F			
Sunderland East.....	9,298	29	34	36	26	44	52	46	50	155	162	317	33·1	19·6
Sunderland West	5,993	19	17	26	30	30	29	41	39	116	115	231	37·9	28·0
Bishopwearmouth North ..	36,842	101	94	113	84	124	120	164	128	502	426	928	25·2	22·0
Bishopwearmouth South ..	39,904	111	103	96	89	122	131	161	116	490	439	929	23·2	19·0
Monkwearmouth.....	27,028	87	88	82	77	99	89	113	106	381	360	741	27·7	21·0
Whole Borough....	119,065	347	336	353	306	419	421	525	439	1,644	1,502	3,146	26·4	20·9
Totals	119,065	683		659		840		964		3,146		3,146	26·4	20·9

IV.

OCCUPATION OF PERSONS, 20 YEARS OF AGE AND UPWARDS, WHO
DIED FROM THE UNDERMENTIONED DISEASES DURING 1882.

(Given as accurately as the Returns allowed.)

Occupation.	Typhoid.	Typhus.	Heart Disease.	Phthisis.	Disease of Lungs.	Apoplexy.	Paralysis.	Cancer.	Total.
Agents	1	..	1	..	..	..	2
Anchorsmiths	1	..	..	1	..	..	2
Artist	1	..	..	..	..	1
Auctioneer	1	1
Brickmaker	1	..	..	..	..	..	1
Bottlepacker	1	1
Block and Mast Maker	1	..	..	..	1
Bootcloser	1	..	1
Bookseller	1	..	..	..	..	1
Bottlemakers	2	..	..	..	..	..	..	2
Boilersmith	1	..	..	..	..	..	1
Brewery Manager	1	..	1
Brassfinisher	1	..	..	..	..	1
Blacksmiths	3	1	3	..	..	..	7
Baker	1	..	..	..	1
Butcher	1	..	..	..	..	1
Bookbinder	1	..	..	..	..	1
Confectioner	1	..	..	1
Coppersmith	1	..	..	..	1
Clerks	2	1	..	2	..	5
Cab Proprietor	1	..	..	..	..	..	1
Cartmen	1	..	1	1	..	1	..	4
Chainmakers	1	..	2	..	..	1	4
Contractor	1	..	..	..	1
Caulkers	1	1	..	..	..	2
Cabman	1	..	..	..	..	1
Cellarman	1	..	..	..	1
Clothier	1	..	..	..	..	1
Druggist	1	..	..	..	..	..	..	1
Drapers	1	1	..	2	..	4
Engine Inspector	1	..	..	..	..	1
Engineers	1	..	..	..	1	..	2
Enginemen	1	1	2
Farmer	1	..	..	..	..	..	1
Fish Curer	1	..	..	..	..	..	..	1
Fishermen	1	..	1	..	1	..	3
Fitter	1	..	..	..	..	1
Fireman	1	..	..	..	..	..	..	..	1
Foreman	1	..	..	..	..	..	1
French Polisher	1	..	..	..	..	..	1
File Cutter	1	..	..	..	..	1
Gentleman	1	..	..	..	..	..	1
German Consul	1	..	..	..	..	..	1
Glass Manufacturer	1	1	..	1	..	..	..	3
Grocers	1	2	1	1	..	..	..	5
Glass Cutters	2	..	..	..	..	2
Gamekeeper	1	..	..	..	..	..	1
Gardeners	1	1	..	..	..	2
Greengrocer	1	..	..	..	1
Housekeeper	1	..	..	..	1
Carried forward ..	1	7	20	20	21	2	10	4	85

OCCUPATION OF PERSONS—Continued.

Occupation.	Typhoid.	Typhus.	Heart Disease.	Phthisis.	Disease of Lungs.	Apoplexy.	Paralysis.	Cancer.	Total.
Brought forward..	1	7	20	20	21	2	10	4	85
Hatter	1	..	..	..	..	..	1
Horsekeeper	1	..	..	..	..	1
Holder-up	1	1
Ironworkers	2	1	..	..	..	..	3
Joiners	2	..	1	1	..	..	..	..	4
Labourers	2	5	10	14	20	..	7	3	61
Letter Carrier	1	..	..	..	1
Lodginghouse Keeper	1	..	..	..	..	..	1
Master Mariners	5	2	3	1	3	..	14
Miller	1	..	..	..	..	1
Miners	1	4	5	..	1	..	..	11
Masons	1	..	..	1	..	1	..	3
Musician	1	..	..	..	..	1
Medical Assistant	1	..	..	..	1
Nurse	1	..	..	..	1
Plumbers	1	2	1	..	..	..	4
Porters	1	..	1	..	..	..	2
Packer	1	..	1
Publicans	2	..	..	..	..	..	2
Printer	1	..	..	..	..	1
Painters	1	..	1	1	4	..	..	..	7
Potter	1	..	..	..	1
Platelayer	1	..	..	..	1
Pipeseller	1	..	..	..	1
Policeman	1	..	..	..	..	..	..	..	1
Pilot	1	..	..	1
Patternmaker	1	..	..	..	..	1
Quarryman	1	..	..	..	1
Rigger	1	..	..	..	..	..	1
Stonemasons	1	1	2	..	..	1	5
Sawyers	1	..	..	1	2
Sculptor	1	..	..	..	..	1
Shipowners	1	..	..	1	..	2
Schoolmasters	1	..	..	1	..	2
Soldier	1	..	1
Sailmakers	1	1	..	..	1	..	3
Shoemakers	1	2	..	2	..	5
Seamen	1	1	4	5	8	3	4	..	26
Shipwrights	1	3	3	5	..	2	2	16
Shipchandler	1	..	..	..	..	..	1
Traveller	1	..	..	..	1
Teazers	1	1	1	1	..	..	..	4
Tailors	1	2	..	1	..	4
Trimmers	2	1	3	..	..	..	6
Tinsmith	1	..	..	..	..	1
Upholsterer	1	1
Weaver	1	..	..	..	..	1
Whitesmith	1	..	..	..	..	..	1
Watermen	2	1	1	..	..	..	4
Watchman	1	..	..	..	..	1
Males	8	17	66	72	84	8	35	13	303
Females	14	8	41	89	85	39	24	44	344
Total	22	25	107	161	169	47	59	57	647

VI.
TABLES OF STREETS
 IN WHICH ZYMOTIC DISEASES OCCURRED IN THE YEAR 1882.
 (Given as accurately as the Returns allowed.)

SUNDERLAND DISTRICT.

Name of Street.	Smallpox.	Fever.	Scarlet Fever.	Measles.	Diphtheria	Whooping Cough.	Diarrhoea.	Removed to Hospital	Deaths.
Bank street	1	..	1	..	..	1	..	2
Barrack street	5	..	..	..	..	..
Blue Anchor yard	1	..	..	..	..	..	..	1
Burleigh street	4	30	..	1	2	..	9
Bull open	4	..	..	..	..	1
Barracks	1	..	..	..	1	..
Coronation street	6	..	..	1	1	..	5
Church street	1	3	..	..	..	..	2
Chapel street	1	3	..	..	..	..	2
Covent Garden street	3	..	5	..	..	..	..	1
Cross place	2	..	..	..	..	..
Ettrick place	1	3	..	..	..	1	3
Flag lane	8	3	..	2	..	..	5
Fitter's row	1	..	..	..	..	..
Fighting Cock lane	1	..	..	..	..	1
Golden alley	1	..	8	..	1	1	1	4
Grey street	3	..	..	..	1	1
George street	11	..	..	..	1	2
Hodgskin street	2	3	..	..	..	1
High street East	2	..	2
Horn's lane	1	3	..	..	1	..	1
Havelock street	1	..	..	..	..	..	..
Hat case	2	10	..	..	..	..	1
James William street	1	..	..	..	..	1
Lombard street	1	5	..	..	..	..	2
Lucknow street	2	..	..	..	..	..	1
Long Bank	2	2	..	..	..	..	2
Maling's rigg	4	9	..	2	1	..	5
Minorca	3	1	..	..	..	..	1
Moorgate street	4	10	..	..	..	..	3
Maud's lane	2	..	..	..	..	1
New Grey Street	1	..	..	..	..	..	..	..	..
Nesham square	4	15	..	..	..	..	5
North Moor street	6	4	..	2	..	..	3
Northumberland place	6	..	..	..	..	1
Number's garth	3	..	..	..	..	1	1	2
Noble's quay	1	..	..	..	..	1
Pottery bank	2	..	..	..	1	1
Prospect row	4	..	..	1
Phoenix square	1	..	..	1
Queen street	1	1	..	..	..	1	2	2
Robinson's lane	2	..	..	..	..	1	..
Stafford street	10	..	..	..	..	..
Spring Garden lane	15	4	4	..	1	1	7	8
Silver street	1	24	..	..	..	..	5
Stone yard	2	..	..	..	..	..
Thomas street	2	11	..	..	..	..	..
Trinity place	1	..	11
Vine street	13	29	..	11	2	..	6
Walton lane	1	..	..	1
Warren street	3	4	11	..	1	..	..	6
Total	28	78	248	3	28	15	17	114

VII.

BISHOPWEARMOUTH DISTRICT.

Name of Streets.	Smallpox.	Fever.	Scarlet Fever	Measles.	Diphtheria.	Whooping Cough.	Diarrhoea.	Removed to Hospital.	Deaths.
Albert street	2	2	..	4	..	..	5
Ailesbury street	1	..	..	..	..	1	1	1	2
Alice street	1	..	..	..	..	..	..
Albany terrace	1	..	1
Alderson street	1	..	..	..	..	..	1
Amberley street	2	..	..	..	1	..	2
Argyle square	1	..	..	..	..	..	..
Aylmer street	1	5	..	1	..	..	1
Azalea terrace	1	..	1	1	..	2
Avenue	2	..	..	..	..	..	..
Addison street	5	..	..	..	1	..	2
Ayre's Quay road	3	..	..	1	..	3
Australia street	1	..	..	..	..	..	1	..
Avon street	1	..	..	..	..	1	..	2
Albion place	1	..	..	..	..	..	..	1	..
Beauclerc terrace	1	..	..	1
Bramwell street	7	..	..	..	..	..	1
Biss street	1	..	..	..	..	1
Barlow court	2	..	..	1
Blandford street	1	..	..	..	1
Blue House grange	23	..	..	..	..	..	21	1
Borough road	1	..	1
Bull street	1	..	1
Booth street	3	..	..	..	..	..	1
Burlington road	2	1	..	..	2	..	4
Bell street	3	..	..	..	..	..	1
Brougham street	2	..	..	2
Broxbourne terrace	1	..	..	..	..	..	..
Clyde street	2	..	..	..	..	1
Cousin street	2	..	..	..	..	..	1
Copperas bank	1	..	..	1
Christopher street	1	1	..	..	..	..	..	1
Crescent row	3	..	..	2
Clementina street	1	2	1	..	1	..	..	2
Castle street	1	..	..	..	..	1	1
Crowtree road	1	..	..	..	..	1	..	..
Clark terrace	1	..	..	..	..	..	..
Commercial road	1	..	..	..	..	..	1	..
Crowtree road	1
Cirencester street	1	3	..	3	1	..	3
Chester road	1	..	1
Chester terrace	1	..	..	1
Catherine street	2	..	2
Coatsworth street	1	..	1
Cumberland street	1	..	1
Cliff terrace	2	..	..	..	..	1
Church street	4	..	..	1	..	3
Charles street	6	..	..	1	..	4
Clanny street	2	..	..	..	..	..
Deptford beach	1	..	..	..	..	..	1
Diamond Hall row	1	..	..	..	..	..	1
Dryborough street	1	..	..	..	..	..	1
D'Arcy terrace	6	..	..	..	..	1
Carried forward ..	2	29	42	39	1	21	20	26	68

BISHOPWEARMOUTH DISTRICT—Contd.

Names of Streets.	Smallpox.	Fever.	Scarlet Fever	Measles.	Diphtheria.	Whooping Cough.	Diarrhoea.	Removed to Hospital.	Deaths.
Brought forward ..	2	29	42	39	1	21	20	26	68
Duke street	1	..	..	1
Dunning street	1	..	..	..	3	2	..	4
Ditchburn terrace	2	..	..	..	..	..	..	1
East street	1	7	..	..	..	..	1
Elgin street	1	..	..	..	..	..	1
East Cross street	3	1	..	..	..	..	1
Eastern street	2	..	..	..	..	..
Ethel street	1	..	..	1	..	..	1	2
Fawcett street	1	..	..	..	..	1	1
Franklin street	1	..	..	..	..	..	..
Ford street	1	..	..	..	..	..
Fowler terrace	4	..	..	..	..	..	1
Foyle street	1	..	..	..	..	..	1
Ferguson street	3	..	..	..	..	1
Frederick street	4	..	..	..	..	..	1	2
Frederick terrace	1	..	..	..	..	..	..	1
Gilsland street	8	..	..	1	..	..	3
Garden place	4	..	..	..	..	1
Gill Bridge avenue	1	5	..	..	..	2	1	2
George street	3	1	..	..	..	..	1
Garden street	1	..	..	..	..	..	..	1
Glass street	1	..	..	..	..	..	1	1
Grace terrace	1	..	1
Hort street	1	..	1
Houghton street	1	..	..	1
Henry street	1	2	5	..	1	..	..	5
Hawthorn street	1	..	..	..	1	..	2
Hendon street	2	3	3	..	..	..	..	4
Hedley street	7	3	..	..	..	..	1
Hanover place	1	..	..	..	..	..	..
Hylton road	1	3	1	..	..	..	2
Hume street	4	..	..	..	..	..	1
Hendon road	2	..	..	2	..	3
Hope street	1	1	..	..	..	..	1	1
Howick street	5	..	..	..	..	2
Hartley street	1	..	3	..	..	..	..	3
Hetton street	1	..	1
Hedworth street	1	3	1	..	2	1	..	6
High street	3	2	1	1	..	3	1	6
Hopper street	1	..	..	..	..	..	..	..
Harrogate street	3	..	..	..	..	..	3
Hudson road	1	..	1	..	2
Hind street	1	..	..	..	..	..	..	..
Harrison street	1	1	..	..	..	..	1
Herrington street	2	..	..	..	..	1	..	1
Infirmery	1	2	..	..	..	..	3	..
John street West	1	1	3	..	..	1	..	3
Johnson street	1	..	..	..	..	..	3
John Candlish road	1	1	..	..	..	2
Carried forward ..	2	56	103	89	6	30	37	36	150

IX.

BISHOPWEARMOUTH DISTRICT—Contd.

Name of Streets.	Smallpox.	Fever.	Scarlet Fever	Measles.	Diphtheria.	Whooping Cough.	Diarrhoea.	Removed to Hospital.	Deaths.
Brought forward ..	2	56	103	89	6	30	37	36	150
Jobling street	1	..	..	..	..	..	1	..
John street	1	..	..	..	..	..	1	..
Kingsley street	1
King street	2	..	2
Lister street	2	..	1	1	..	..	2
Laura street	1	..	..	1
Lawrence street	13	..	..	..	..	2
Lawton street	1	1	..	..	..	..	..	2
Lilburn street	11	..	..	1	..	2
Lambton street	2	..	..	1	..	2
Lindsay road	2	..	..	..	1
Lumley street	1	..	1
Milburn street	8	..	..	..	..	..	..
Mary street	1	..	..	..	..	..	..
Matlock street	1	2	..	..	..	..	1	2
Moor street	1	3	1	..	..	..	..	3
Mainsforth terrace	2	..	..	..	..	..	1
Murton street	3	..	..	..	..	1
Malton yard	1	..	..	1
McNay's buildings	1	..	..	1
Noble street	3	..	..	..	..	..	1
North Durham street	1	1	6	..	1	..	..	3
Norman street	3	2	..	..	5	1	7
Offerton street	1	..	..	..	1	..	1
Olive street	1	..	1
Old Mill road	1	5	..	..	2	..	3
Ogden street	2	..	2	1	..	4
Potts street	5	2	..	..	..	..	2
Page street	2	..	..	..	..	..	1
Parade	1	..	1
Pemberton street	2	1	8	..	..	..	..	1
Peacock street	3	3	..	1	..	..	3
Priestly crescent	3	..	..	..	..	1
Press lane	1	..	..	1
Plevna terrace	3	..	..	1
Phoenix square	1	..	..	1
Pcel street	1	..	..	1
Pensher street	1	..	..	..	..	..	1	1
Park terrace	1	..	..	..	..	..	..	..
Pallion road	1	..	..	..	..	..	..	1
Queen street	1	..	1
Royalty	2	..	..	..	..	..	2
Ropery road	3	..	..	..	..	..	1
Retreat	3	..	..	..	..	1
Ropery walk	2	..	..	..	..	1
Rosedale street	1	..	..	1
Rutland street	2	1	..	2
Robinson street	1	..	1
Randolph street	1	..	1
Rosanna street	2	..	2
Robinson terrace	1	..	1
Suffolk street	1	2	..	3
St. Cuthbert's terrace	2	..	..	1	..	..	2
St. Luke's terrace	2	..	..	2
Carried forward ..	2	67	149	155	9	51	62	41	231

BISHOPWEARMOUTH DISTRICT—Contd.

Names of Streets.	Smallpox.	Fever.	Scarlet Fever	Measles.	Diphtheria.	Whooping Cough.	Diarrhoea.	Removed to Hospital.	Deaths.
Brought forward ..	2	67	149	155	9	51	62	41	231
Salem street	1	..	1
Spelter Works road	1	..	1
Swan's court	1	..	..	..	..	..	1
Short street	1	..	..	..	..	..
Sunderland street	1	1	2	..	..	..	..	2
South Durham street	1	4	..	..	..	..	1	3
Sussex street	1	..	..	..	2	..	2
Southgate	2	..	..	1
Stanley street	1	..	..	..	..	..	..	1
Tyne street	1	5	..	..	..	..	3
Tees street	1	5	3	..	..	..	..	4
Tatham street	5	1	..	..	..	..	3
Thompson street	6	..	..	..	1	..	3
Thomas street	1	..	..	1
Tower street	1	..	..	..	..	..	1
Thornhill gardens	1	..	..	..	..	..	..
Toward terrace	1	..	..	..	..	..	..
Tunstall vale	4	..	..	..	..	..	..
Tweed street	3	..	..	..	..	..
Trewhitt's buildings	1	..	..	..	..	1
Trimdon street	5	..	2	..	..	1	2	3
Trewhitt's crescent	4	..	..	..	..	1
Tavistock place	1	..	..	..	1
Thornhill terrace	1	..	1	1
Trinity place	1	..	1
Vicarage terrace	3	..	..	..	..	..
Villiers street	1	6	..	..	..	..	2
Volunteer garrison	1	..	..	..	..	..	1	..
Westbourne road	1	..	..	..	..	..	1
Walworth street	1	..	1
Washington street	3	2	..	..	..	..	1
Workhouse lodge	2	..	..	..	..	..	..
Wear street	17	16	..	..	1	..	5
Woodbine street	5	..	..	..	..	..
Whitehouse road	3	..	..	..	..	..	1
William street	2	..	..	1	..	3
Wall street	2	1	..	..	..	..	2
Westbury street	2	1	..	..	..	..	2
Wood street	1	..	..	..	..	..	..	..
Worcester terrace	1	..	..	..	..	..	..	1
Water street	1	..	..	..	..	..	..	1
West Wear street	2	..	2
Wellington road	1	3	..	..	1	..	2
Williams street	3	..	..	..	..	1
Waterworks road	2	..	..	..	..	2
Wilson street West	1	6	..	..	..	1	..	3
Zion street	2	..	..	..	..	..
Totals	2	81	218	232	10	55	76	46	296

MONKWEARMOUTH DISTRICT.

Names of Streets.	Smallpox.	Fever.	Scarlet Fever	Measles.	Diphtheria.	Whooping Cough.	Diarrhoea.	Removed to Hospital.	Deaths.
Albany street	6	1	..	..	..	3	2	5
Abbs street	1	..	..	1
Ash Cottage	1	..	..	1
Bond street	2	6	..	..	2	..	4
Bloomfield street.....	..	2	7	..	..	..	..	1	1
Brooke street	5	..	..	..	..	3
Brandling street	3	..	2	2	..	..	5
Bridge street (North)....	3	..	2	..	..	..	..	..	1
Barrington street.....	..	1	..	..	..	2	..	1	2
Barclay street	1	..	..	..	1
Black Cock open	1	..	..	..	..	..	1
Back Stables.....	..	4	1	2	..	4	1	2	6
Blue Bell yard.....	2	..	..	..	..	..	..
Bonner's Field.....	1	1	..	1	..	..	2
Byron street.....	1	..	1
Colliery square.....	2	..	1	..	..	2
Chilton street	2	3	..	4
Charles street	1	..	..	..	..	..	1
Church street	10	2	5	..	3	1	..	10
Duke street	4	1	..	..	1	..	2
Dock street	1	..	3	..	3	2	4	..	8
Dame Dorothy street....	..	2	..	4	..	7	..	2	7
Devonshire street.....	2	..	..	..	..	1
Dixon square	17	..	..	..	..	2	9	13
Dundas street	1	..	1
Ellerslie terrace	2	..	..	..	..	..	..
Eglinton street	2	3	..	..	..	..	1
Edmundson street	1	..	1
Fulwell road.....	1	..	..	..	..	..	1
George street	1	..	1
Gosforth street.....	7	4	..	2	1	..	8
Garden court	3	..	..	..	..	..	2
Gladstone street	1	6	1	..	5	1	..	6
Hodgson's Buildings	3	..	1	1	1	..	3
Hamilton street	4	4	..	..	..	..	2
Huddleston street	4	..	..	..	..	..	2
Howick street	2	..	..	..	..	..	..
Hedworth street	3	..	3	..	3	1	2	6
Hardwicke street.....	2	..	..	2
Huntley place	1	..	..	..	..	..	..	1
Howick place	4	1	..	..	..	..	2
Hay street	1	..	..	..	..	..	1	1
Hood street	2	5	..	1	2	..	6
Long row	2	..	..	..	..	2
Mill row	2	..	..	..	1	..	2
Millburn street	1	..	..	..	..	..	1
Mulgrave street	1	3	..	..	..	..	2
Millum terrace	1	..	..	..	..	..	..
[Carried forward ..	4	48	75	54	7	40	28	20	136

XII.

MONKWEARMOUTH DISTRICT—Contd.

Name of Streets.	Smallpox.	Fever.	Scarlet Fever	Measles.	Diphtheria.	Whooping Cough.	Diarrhoea.	Removed to Hospital.	Deaths.
Brought forward ..	4	48	75	54	7	40	28	19	136
Millum place	3	..	..	..	..	..	2
Nelson square.....	1	..	..	1
Normanby street	1	6	..	..	..	..	1	4
North quay	1	..	..	..	..	..	..
North Bridgestreet(back)	5	..	..	..	..	2
North street	4	1	..	4
Osborne street.....	..	2	3	..	..	..	..	..	1
Portebello lane	1	..	..	..	..	1	..
Pilgrim street.....	5	..	..	3	..	..	2
Palmer's hill	1	1	..	2
Roker avenue	2	6	..	5	2	..	8
Richmond street	1	..	..	..	..	1
Rothsay street.....	..	1	6	6	..	..	..	..	6
Rendlesham street.....	2	..	..	..	..	..	1
Ravensworth terrace....	3	..	..	1	..	2
Ropery row.....	3	..	..	..	..	1
Society lane.....	1	..	..	1	1	..	4
Sheepfolds	4	4	..	..	..	..	1
St. George's terrace	2	..	..	..	..	..	1
Stobart street	2	..	..	2
Smithson square.....	..	5	..	..	..	..	..	2	..
Trafalgar court	6	..	3	..	..	..	2	..
Victor street	1	..	..	..	2	2	..	6
Victoria cottages	1	..	1
Wearmouth street.....	2	2	..	..	..	..	1
Wayman street	1	1	2	2	..	..	2	..	5
Williamson street	2	..	..	..	1	..	2
Whickham street	3	3	..	..	..	..	1
Wilson street	1	1	..	4	..	6
Wreath quay road.....	1	3	..	..	..	..	2
Whitburn street	1	2	..	1	1	..	4
Williamson terrace (back)	2	..	..	1
Woodger terrace	3	..	..	1
Waterloo street	3	..	..	6	..	..	4
Warwick street	14	1	..	2	1	..	9
Yorke street	2	..	..	2
Zetland street.....	1	..	1
Totals.....	5	65	139	99	8	75	47	25	227

Statement of Vaccination in the entire Districts of the Sunderland Union,

YEAR ENDING DECEMBER, 1882,

(AS FURNISHED BY MR. J. THOMPSON, VACCINATION OFFICER).

REGISTRATION DISTRICTS.	Births Registered.	Vaccinated by Public Vaccinator.	Vaccinated by Private Medical Practitioners	Total Vaccinated.	Postponed by Medical Authority	Dead previous to Vaccination	Removals into other Unions.	In Abeyance
Sunderland East	346	268	30	298	6	39	3	..
Sunderland West	231	182	12	194	2	27	8	..
Bishopwearmouth South	1960	1039·2*	633	1672	45	207	33	3
Bishopwearmouth North	1713	946·1	523	1469	32	158	51	3
Monkwearmouth	1664	992	424	1416	31	177	40	..
Totals	5914	3427·3	1622	5049	116	608	135	6

*Denotes insusceptibility.

TABLE OF METEOROLOGICAL OBSERVATIONS

From January to March, 1882.

JANUARY.						FEBRUARY.						MARCH.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest.	Lowest.					Highest.	Lowest.					Highest.	Lowest.		
1	29.478	50.0	38.0	SSW	.00	1	30.568	45.0	36.0	SSW	.00	1	28.892	47.0	35.0	SE	.24
2	29.278	53.0	36.0	WNW	.09	2	30.289	44.0	35.0	SW	.00	2	28.980	48.0	36.0	SE	.56
3	29.898	47.0	39.0	WNW	.06	3	30.289	46.0	37.0	SW	.00	3	29.423	47.0	36.0	SSE	.07
4	29.678	52.0	34.0	WNW	.00	4	30.289	47.0	36.0	SW	.00	4	29.479	48.0	35.0	SW	.00
5	29.197	50.0	35.0	SW	.03	5	30.392	51.0	40.0	WNW	.00	5	29.447	55.0	41.0	WSW	.00
6	29.092	51.0	40.0	SW	.01	6	30.480	54.0	40.0	WNW	.00	6	29.641	59.0	37.0	W	.03
7	29.409	45.0	36.0	WSW	.02	7	30.583	49.0	40.0	W	.00	7	29.878	62.0	32.0	SSW	.02
8	29.761	49.0	37.0	SW	.00	8	30.427	49.0	39.0	NW	.00	8	29.810	62.0	40.0	W	.00
9	29.796	48.0	35.0	W	.08	9	30.230	46.0	35.0	SSW	.00	9	29.960	65.0	40.0	SW	.00
10	29.878	49.0	38.0	SW	.00	10	30.000	51.0	36.0	SSW	.01	10	29.910	67.0	50.0	WSW	.00
11	29.925	50.0	41.0	WNW	.00	11	29.825	53.0	37.0	SSW	.00	11	30.450	56.0	39.0	W	.00
12	30.200	49.0	41.0	SW	.00	12	29.789	62.0	41.0	SSW	.00	12	30.414	64.0	37.0	W	.00
13	30.230	51.0	40.0	S	.00	13	29.473	59.0	40.0	SW	.00	13	30.361	64.0	42.0	W	.00
14	30.333	51.0	37.0	SSW	.00	14	29.878	54.0	40.0	W	.01	14	30.321	68.0	37.0	WSW	.00
15	30.492	46.0	41.0	SW	.03	15	29.728	50.0	37.0	WNW	.00	15	30.465	67.0	41.0	WNW	.00
16	30.630	48.0	36.0	SW	.00	16	29.994	55.0	33.0	WNW	.01	16	30.373	74.0	41.0	WNW	.00
17	30.686	49.0	35.0	SW	.00	17	29.922	55.0	41.0	WNW	.00	17	30.518	64.0	42.0	WNW	.00
18	30.761	53.0	38.0	WNW	.00	18	29.822	53.0	45.0	W	.01	18	30.215	64.0	40.0	WNW	.00
19	30.750	54.0	42.0	WNW	.00	19	30.448	55.0	36.0	NW	.05	19	29.922	64.0	45.0	WSW	.00
20	30.571	46.0	38.0	NW	.00	20	30.583	57.0	40.0	WNW	.00	20	29.567	56.0	45.0	W	.00
21	30.533	53.0	37.0	W	.00	21	30.580	57.0	45.0	NW	.00	21	29.432	49.0	35.0	WNW	.13
22	30.389	50.0	38.0	SW	.00	22	30.477	57.0	42.0	W	.00	22	29.978	50.0	32.0	N	.02
23	30.292	51.0	36.0	WSW	.00	23	30.346	54.0	41.0	NW	.00	23	29.878	55.0	32.0	WSW	.01
24	30.415	54.0	39.0	SW	.00	24	30.066	56.0	40.0	SW	.00	24	29.373	58.0	41.0	SW	.10
25	30.527	50.0	36.0	WSW	.00	25	29.498	54.0	39.0	SW	.00	25	29.429	56.0	36.0	WNW	.03
26	30.402	41.0	35.0	SW	.00	26	28.927	62.0	47.0	SW	.04	26	29.400	55.0	38.0	NNW	.09
27	30.127	52.0	30.0	SSW	.00	27	29.150	46.0	37.0	NE	.06	27	29.900	55.0	35.0	W	.00
28	30.081	48.0	36.0	W	.05	28	29.579	45.0	33.0	SE	.02	28	30.000	60.0	41.0	W	.00
29	30.151	45.0	36.0	NE	.00							29	29.750	65.0	45.0	WSW	.00
30	30.401	44.0	35.0	ENE	.10							30	29.550	65.0	40.0	WNW	.00
31	30.539	46.0	37.0	S	.03							31	29.500	58.0	35.0	N	.03
Mean Height of Barometer in Month, 30.125.						Mean Height of Barometer in Month, 30.058.						Mean Height of Barometer in Month, 29.813.					
Adopted Mean Temperature 43.17.						Adopted Mean Temperature 45.60.						Adopted Mean Temperature 48.83.					
Rainfall, 0.50 in.						Rainfall, 0.21 in.						Rainfall, 1.33 in.					

TABLE OF METEOROLOGICAL OBSERVATIONS

From April to June, 1882.

APRIL.						MAY.						JUNE.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest.	Lowest.					Highest.	Lowest.					Highest.	Lowest.		
1	29.950	53.0	37.0	N	.01	1	29.625	62.0	33.0	SSW	.00	1	30.500	69.0	46.0	SSE	.00
2	30.084	50.0	40.0	ESE	.02	2	29.775	67.0	40.0	SSW	.04	2	30.400	64.0	46.0	SSE	.00
3	30.072	53.0	38.0	SSE	.01	3	29.950	60.0	44.0	SSE	.00	3	30.000	62.0	49.0	SSE	.00
4	30.215	55.0	40.0	ESE	.00	4	29.725	60.0	43.0	WNW	.50	4	29.600	75.0	51.0	SW	.88
5	30.271	54.0	40.0	SSE	.00	5	29.900	61.0	42.0	NNE	.01	5	29.650	76.0	46.0	SSW	.06
6	30.368	60.0	40.0	SSE	.03	6	29.900	59.0	41.0	ENE	.10	6	29.550	77.0	51.0	SW	.01
7	30.527	62.0	41.0	ENE	.00	7	30.050	59.0	42.0	NE	.25	7	29.625	71.0	47.0	WSW	.01
8	30.530	58.0	35.0	ENE	.00	8	30.175	58.0	40.0	SE	.74	8	29.800	69.0	47.0	W	.13
9	30.450	56.0	38.0	NE	.00	9	30.400	59.0	37.0	SSW	.00	9	29.350	62.0	48.0	NNW	.36
10	30.200	56.0	33.0	NE	.00	10	30.375	70.0	41.0	WNW	.03	10	29.675	62.0	47.0	NNE	.04
11	30.000	47.0	36.0	NNE	.00	11	30.275	76.0	45.0	W	.00	11	29.950	66.0	43.0	NNW	.00
12	29.900	51.0	35.0	SW	.00	12	30.250	72.0	43.0	WNW	.00	12	29.800	60.0	41.0	NNW	.02
13	29.500	50.0	35.0	SSE	.28	13	30.450	64.0	42.0	NNE	.00	13	29.820	61.0	39.0	NW	.00
14	29.050	51.0	40.0	SSE	.83	14	30.475	60.0	42.0	NE	.00	14	29.600	62.0	45.0	WSW	.12
15	29.550	50.0	35.0	NE	.53	15	30.450	58.0	40.0	NNE	.00	15	29.870	65.0	45.0	WNW	.05
16	29.725	52.0	36.0	SW	.01	16	30.450	60.0	40.0	NNE	.03	16	30.250	66.0	40.0	NNW	.00
17	29.450	60.0	37.0	SSW	.00	17	30.550	65.0	37.0	NE	.00	17	30.070	64.0	41.0	SSW	.00
18	29.800	60.0	40.0	NNE	.13	18	30.500	69.0	41.0	S	.00	18	29.650	73.0	49.0	SW	.10
19	29.800	61.0	39.0	WSW	.13	19	30.400	62.0	41.0	SSE	.00	19	29.770	67.0	46.0	WNW	.16
20	29.850	66.0	46.0	WNW	.05	20	30.225	67.0	45.0	SE	.00	20	29.870	64.0	46.0	WNW	.00
21	30.150	64.0	45.0	WSW	.00	21	30.100	65.0	46.0	E	.00	21	29.770	63.0	50.0	SSW	.04
22	29.775	54.0	45.0	SSE	.00	22	30.075	65.0	45.0	ESE	.00	22	29.850	66.0	49.0	S	.11
23	29.325	56.0	45.0	SE	.20	23	25.775	66.0	45.0	E	.00	23	30.820	74.0	48.0	WSW	.42
24	29.300	61.0	43.0	WNW	.43	24	25.325	64.0	45.0	S	.01	24	30.050	63.0	40.0	S	.05
25	29.325	64.0	39.0	WNW	.22	25	25.500	69.0	47.0	S	.03	25	30.000	65.0	50.0	SSE	.45
26	29.400	55.0	40.0	N	.00	26	25.700	70.0	45.0	WSW	.50	26	30.100	68.0	48.0	NNE	.11
27	29.750	54.0	37.0	WNW	.03	27	25.775	73.0	49.0	SSW	.06	27	30.170	69.0	48.0	NNE	.00
28	29.250	55.0	40.0	SSE	.14	28	30.100	76.0	50.0	SW	.00	28	30.200	67.0	50.0	NNE	.00
29	29.350	55.0	39.0	WNW	.31	29	30.300	74.0	50.0	NNE	.00	29	30.220	65.0	49.0	NNE	.00
30	29.600	64.0	36.0	WNW	.46	30	30.450	70.0	49.0	WSW	.00	30	30.250	70.0	48.0	ENE	.00
						31	30.450	62.0	46.0	SSE	.00						
Mean Height of Barometer in Month, 29.817.						Mean Height of Barometer in Month, 30.109.						Mean Height of Barometer in Month, 29.940.					
Adopted Mean Temperature 47.64.						Adopted Mean Temperature 54.25.						Adopted Mean Temperature 56.96.					
Rainfall, 3.82 in.						Rainfall, 2.30 in.						Rainfall, 3.11 in.					

TABLE OF METEOROLOGICAL OBSERVATIONS

From July to September, 1882.

JULY.						AUGUST.						SEPTEMBER.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest.	Lowest.					Highest.	Lowest.					Highest.	Lowest.		
1	30·220	63·0	48·0	E	·00	1	30·100	70·0	51·0	W	·07	1	29·670	67·0	50·0	S	·11
2	30·150	77·0	53·0	SW	·00	2	29·900	72·0	58·0	WNW	·00	2	29·250	68·0	52·0	SSW	·10
3	30·075	76·0	55·0	SSW	·07	3	30·170	70·0	50·0	NNW	·00	3	29·620	70·0	55·0	NW	·05
4	29·750	70·0	55·0	SSW	·20	4	30·300	76·0	47·0	NW	·00	4	30·200	66·0	49·0	WSW	·02
5	29·475	74·0	51·0	SSW	·18	5	30·270	73·0	54·0	WNW	·00	5	30·100	69·0	48·0	NNW	·00
6	29·450	75·0	51·0	WSW	·02	6	30·200	83·0	49·0	NW	·00	6	30·350	70·0	47·0	S	·00
7	29·225	70·0	50·0	WSW	·05	7	30·300	71·0	54·0	NNW	·00	7	30·500	74·0	42·0	SW	·00
8	29·450	69·0	45·0	WSW	·20	8	30·300	73·0	54·0	E	·00	8	30·450	68·0	46·0	NW	·00
9	29·550	75·0	54·0	SW	·07	9	30·350	83·0	50·0	NNE	·00	9	30·550	72·0	45·0	NW	·00
10	29·670	69·0	50·0	SSW	·00	10	30·350	85·0	54·0	SW	·00	10	30·100	70·0	50·0	SSW	·05
11	29·670	70·0	50·0	SSW	·15	11	30·250	86·0	55·0	WSW	·00	11	29·750	70·0	49·0	NNW	·00
12	29·850	72·0	50·0	NNW	·00	12	30·070	80·0	65·0	SW	·00	12	29·700	65·0	41·0	NNW	·00
13	29·820	74·0	53·0	SSW	·12	13	29·900	70·0	55·0	SSE	·03	13	29·700	59·0	42·0	NNW	·35
14	29·550	82·0	52·0	SSW	·17	14	29·800	80·0	54·0	SSW	·00	14	29·570	64·0	44·0	NNW	·22
15	29·420	73·0	57·0	SSW	·18	15	29·700	70·0	55·0	SSW	·13	15	29·850	69·0	41·0	SW	·00
16	22·500	77·0	52·0	SSW	·49	16	29·600	74·0	47·0	WNW	·06	16	29·950	72·0	42·0	SW	·00
17	29·770	75·0	50·0	WSW	·07	17	29·900	70·0	55·0	NNE	·00	17	30·050	67·0	49·0	SW	·00
18	29·770	73·0	54·0	WSW	·01	18	30·000	71·0	55·0	WNW	·29	18	30·100	66·0	45·0	NW	·00
19	29·900	72·0	50·0	WSW	·05	19	30·000	68·0	52·0	WNW	·00	19	30·100	58·0	45·0	N	·08
20	30·070	75·0	55·0	SW	·00	20	30·000	76·0	50·0	WSW	·13	20	30·050	58·0	47·0	NE	·04
21	29·970	70·0	50·0	S	·25	21	29·600	72·0	51·0	W	·00	21	30·070	65·0	47·0	NNE	·00
22	29·800	75·0	52·0	SSW	·22	22	29·670	74·0	51·0	WNW	·24	22	30·050	59·0	45·0	ENE	·10
23	29·640	68·0	51·0	SW	·30	23	29·050	61·0	45·0	N	·46	23	30·000	63·0	46·0	W	·00
24	29·520	69·0	48·0	WSW	·10	24	29·500	68·0	45·0	W	·02	24	29·970	71·0	51·0	SW	·00
25	29·900	72·0	50·0	NNW	·00	25	29·500	68·0	45·0	WSW	·00	25	29·870	65·0	49·0	SSW	·32
26	30·370	73·0	48·0	N	·00	26	29·550	64·0	46·0	NNW	·05	26	29·670	66·0	49·0	S	·12
27	29·470	70·0	49·0	SSW	·39	27	29·700	70·0	53·0	WNW	·04	27	29·350	64·0	49·0	S	·06
28	30·350	76·0	50·0	WNW	·00	28	29·720	66·0	48·0	SW	·19	28	29·550	64·0	46·0	W	·00
29	30·300	70·0	50·0	SSE	·00	29	29·400	68·0	47·0	NW	·07	29	29·570	62·0	43·0	WSW	·05
30	30·100	71·0	65·0	WSW	·23	30	29·920	69·0	46·0	NNW	·03	30	29·800	68·0	44·0	W	·18
31	30·300	61·0	48·0	W	·17	31	30·120	68·0	48·0	N	·00						
Mean Height of Barometer in Month, 29·808.						Mean Height of Barometer in Month, 29·900.						Mean Height of Barometer in Month, 29·910.					
Adopted Mean Temperature 61·99.						Adopted Mean Temperature 74·81.						Adopted Mean Temperature 56·66.					
Rainfall, 4·69 in.						Rainfall, 1·18 in.						Rainfall, 1·85 in.					

TABLE OF METEOROLOGICAL OBSERVATIONS

From October to December, 1882.

OCTOBER.						NOVEMBER.						DECEMBER.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest.	Lowest.					Highest.	Lowest.					Highest.	Lowest.		
1	29.720	74.0	50.0	SW	.14	1	29.650	55.0	45.0	S	.04	1	30.000	42.0	31.0	NW	.00
2	29.950	69.0	46.0	SW	.01	2	29.650	57.0	44.0	SSW	.02	2	30.025	40.0	30.0	SW	.02
3	30.100	68.0	45.0	W	.03	3	29.625	59.0	43.0	WSW	.43	3	29.300	45.0	32.0	SW	.07
4	30.500	69.0	49.0	NNW	.05	4	29.250	57.0	41.0	WSW	.01	4	28.950	43.0	35.0	WNW	.48
5	30.700	61.0	50.0	NNE	.06	5	29.575	59.0	45.0	SW	.00	5	29.300	40.0	32.0	ENE	.25
6	30.450	61.0	49.0	NNE	.00	6	30.000	51.0	41.0	W	.00	6	29.450	39.0	30.0	ENE	.70
7	30.300	60.0	50.0	NE	.30	7	29.800	49.0	37.0	WNW	.06	7	29.362	42.0	30.0	NNE	.29
8	30.300	56.0	50.0	SE	.09	8	29.250	50.0	36.0	W	.32	8	29.650	41.0	33.0	ENE	.60
9	30.200	62.0	46.0	S	.00	9	29.000	53.0	36.0	WNW	.00	9	29.608	40.0	32.0	ENE	.18
10	30.150	56.0	42.0	SSW	.00	10	29.500	51.0	36.0	WNW	.42	10	29.655	40.0	32.0	W	.00
11	29.700	58.0	46.0	SSW	.29	11	29.700	46.0	32.0	WNW	.10	11	29.807	35.0	25.0	W	.00
12	29.600	59.0	48.0	NW	.03	12	30.100	46.0	35.0	WSW	.03	12	29.807	35.0	22.0	WNW	.29
13	30.000	60.0	50.0	NE	.12	13	32.250	48.0	36.0	SSE	.29	13	29.712	37.0	25.0	WSW	.05
14	30.150	64.0	50.0	SE	.00	14	30.30	47.0	38.0	SE	.01	14	29.872	39.0	36.0	NW	.28
15	30.050	55.0	48.0	SSE	.34	15	29.950	48.0	38.0	SE	.24	15	29.966	44.0	32.0	SE	.07
16	29.920	55.0	44.0	SE	.12	16	29.500	45.0	36.0	ESE	.28	16	30.002	46.0	36.0	SSW	.13
17	30.000	58.0	44.0	SE	.02	17	30.300	41.0	32.0	NNW	.03	17	29.860	46.0	39.0	SE	.02
18	30.200	55.0	45.0	SE	.01	18	29.950	41.0	30.0	SSW	.09	18	29.780	47.0	39.0	SSE	.05
19	29.900	62.0	48.0	SSE	.33	19	29.300	46.0	33.0	WNW	.00	19	30.130	46.0	40.0	SSE	.00
20	29.750	65.0	45.0	SSE	.00	20	29.250	41.0	32.0	NW	.14	20	30.270	48.0	39.0	SW	.04
21	29.600	58.0	45.0	S	.22	21	29.750	52.0	32.0	NW	.29	21	29.700	49.0	39.0	WSW	.00
22	29.175	62.0	45.0	WNW	.00	22	29.300	54.0	35.0	W	.01	22	29.650	48.0	38.0	W	.00
23	29.325	58.0	39.0	SSW	.01	23	29.400	59.0	45.0	W	.00	23	29.510	43.0	35.0	WNW	.00
24	29.350	55.0	40.0	SSW	.20	24	29.100	55.0	44.0	WNW	.03	24	29.820	42.0	31.0	SW	.01
25	29.500	58.0	40.0	WNW	.00	25	29.150	45.0	38.0	W	.07	25	29.607	44.0	34.0	SW	.12
26	29.550	58.0	35.0	W	.09	26	29.050	47.0	35.0	NNW	.00	26	29.527	46.0	32.0	NW	.41
27	29.650	55.0	38.0	SSE	.57	27	29.650	44.0	35.0	NNW	.04	27	29.400	53.0	33.0	SSW	.04
28	29.900	54.0	44.0	NE	.07	28	30.050	44.0	33.0	NW	.20	28	29.473	54.0	35.0	NW	.07
29	29.675	54.0	43.0	NNW	.01	29	29.750	45.0	32.0	WNW	.00	29	29.334	55.0	46.0	SW	.02
30	29.650	55.0	39.0	SSE	.30	30	30.200	45.0	35.0	NW	.03	30	29.800	44.0	35.0	NNW	.00
31	29.900	57.0	40.0	SSW	.00							31	29.900	51.0	37.0	SSW	.12
Mean Height of Barometer in Month, 29.830.						Mean Height of Barometer in Month, 29.620.						Mean Height of Barometer in Month, 29.970.					
Adopted Mean Temperature 53.30.						Adopted Mean Temperature 42.93.						Adopted Mean Temperature 39.63.					
Rainfall, 1.07 in.						Rainfall, 3.18 in.						Rainfall, 2.35 in.					

Mortality from the Principal Zymotic Diseases during the Twelve Years ending Dec. 31st, 1882.

Year.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever—Typhus and Typhoid.	Diarrhœa.	Rate per 1,000.
1871	850	58	190	16	72	221	128	15·61
1872	54	50	114	9	82	106	112	5·24
1873	1	33	28	16	58	53	153	3·34
1874	..	59	140	13	17	53	165	4·30
1875	..	5	61	8	133	42	141	3·69
1876	..	42	133	9	53	53	145	4·05
1877	..	1	138	15	63	61	82	3·29
1878	1	93	186	14	175	53	204	6·53
1879	..	1	243	10	44	27	73	3·52
1880	..	99	312	3	73	42	203	6·41
1881	..	3	145	8	40	27	90	2·67
1882	1	191	168	18	106	76	125	5·75
Averages	75	53	154	11	76	67	135	5·39

XIX.

Cases in which Premises were visited by the Medical Officer of Health and Sanitary Inspectors, on account of Infectious Diseases prevailing therein.

Diseases.	No. of Cases.	Bedding and Articles of Clothing Burned to prevent Contagion.	No.
Smallpox	7	Flock and Chaff Beds ..	10
Typhus and Typhoid Fever	174	Mattresses	15
Scarlatina	435	Pillows, &c.	23
Measles	820	Sheets, &c.	20
Diphtheria	21	Bed Hangings.....	2
Whooping Cough	158	Towels	2
Diarrhœa	138	Bed Tick	1
		Bolsters.....	4
		Feather Bed.....	1
		Sundries	70
Total.....	1653	Total.....	148

List of Cases in which it was found necessary to adopt Magisterial Proceedings.

Particulars of Complaint.	No. of Cases.	How disposed of.	Penalties imposed.
Borough Bye-Laws.....	3	2 fined 5s. ; 1 fined 2s. 6d.	7s. 6d.
Ash-pits, Privies, Water-closets, Spouts, and Premises in such a state as to be a Nuisance and Injurious to Health	54	Cases withdrawn on payment of Costs	—
Exposing Unsound Food for Sale	1	Fined £10 and Costs	£10
Adulteration of Food	4	2 fined 2s. 6d. and Costs, and 2 dismissed with cautions	5s.
Common Lodging House Bye-Laws	3	3 fined 2s. 6d.	7s. 6d.
Total.....	65	Total	£11

Number of Persons Summoned under the Sanitary Acts.

Sanitary Acts.	Number of Persons.	Convicted.	Dis-charged with Caution.	N uisances abated and Summonses withdrawn on payment of Costs.
Public Health Act	54	3	—	54
Selling and Exposing for Sale Unsound Food	1	1	—	—
Adulteration of Food Act	4	2	2	—
Bye-Laws	3	3	—	—
Total	62	9	2	54

Table shewing the amount of Bad Meat and other unwholesome articles of Food seized and destroyed during 1882.

Class of Food Seized.	No. of Seizures.	Weight in Pounds Seized and Destroyed.	No. of Persons Summoned.	No. of Convictions.	Amount of Penalties imposed
Beef and Mutton	6	2,408 lbs.	1	1	} £10 and Costs.
Fish	2	1,963 lbs.	—	—	
Mackerel	1	2,400	—	—	—
Herring	2	26,000	—	—	—
Potatoes	1	40 Tons.	—	—	—
Rabbits	1	11 Couple.	—	—	—
Milk	2	25 Pints.	—	—	—
Total	15		1	1	£10 & Costs

XXI.

Notices Served.

To Repair Defective House Drains, Roofs, Water Closets, Ash-pits, &c.	1,741
To Whitewash Premises, Cleanse Rooms, Yards, Out- houses, &c.	1,472
Defective Spouts	155
Close Cellar Dwellings and abate overcrowding	109
To abate Smoke Nuisances	3
To Cleanse and Disinfect Houses wherein Zymotic Diseases had occurred.....	670
Total.....	4,150

Nuisances reported and Notices served by Sanitary Inspectors
during the Year.

Number of Nuisances reported.....	1,708
Nuisances abated without formal notice	198
Nuisances abated after notice without proceedings.....	1,445
Nuisances abated after proceedings had been taken	65
Number of formal notices given	3,480
Complaints made at office, and attended to by Inspectors..	514
Order of Magistrates to abate nuisance	8

Disinfection of Articles, &c.

Articles Disinfected.	No.	Houses Fumigated and Disinfected.	No.
Feather Beds.....	12	Houses Fumigated and Disinfected by Inspector	674
Mattresses	43		
Blankets	21		
Pillows	82		
Sheets	32		
Quilts	24		
Flock Beds.....	17		
Curtains and Bed Hangings	27		
Bedsteads	2		
Sundries	420		
Total.....	680	Total	674

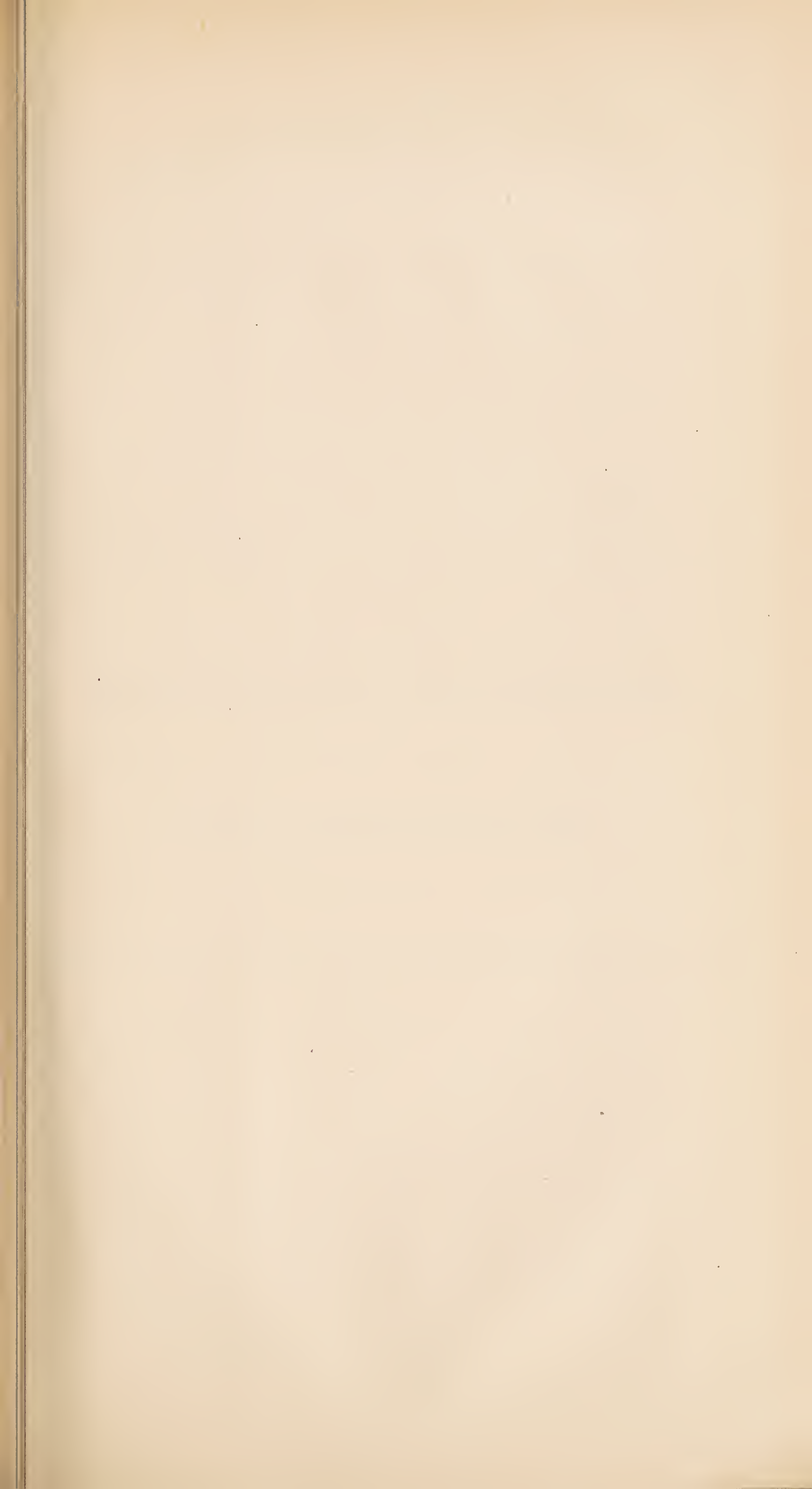
Ash-pits Cleansed by Corporation.

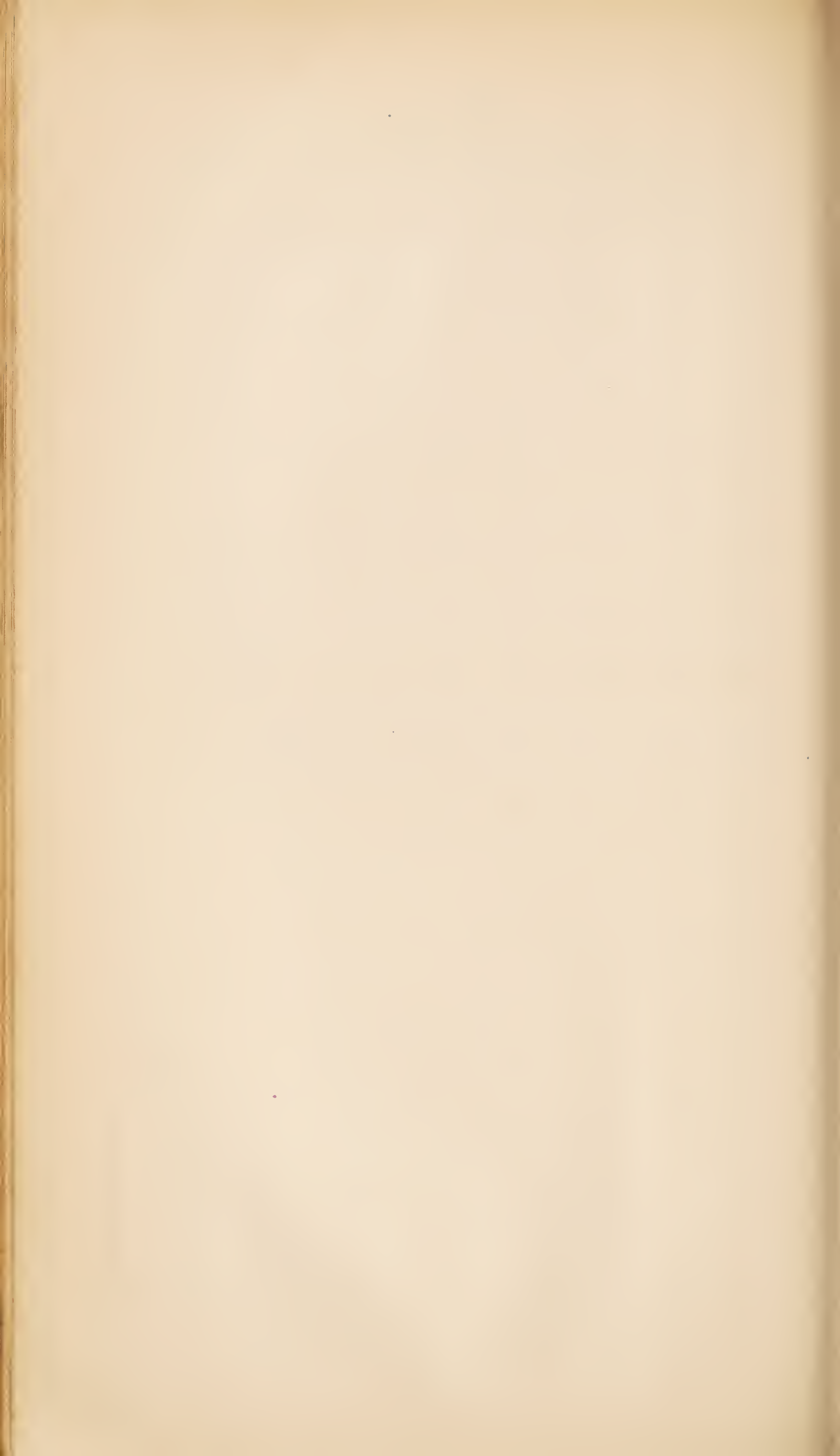
Orders taken by Inspectors during inspection, and at the Office.....	11,324	No. of Ash-pits Cleansed	37,841
Total Orders	11,324	No. of Loads removed during 1882	50,010
		Ash-closets and Scuttles	8,981
		Total Loads	58,991

XXII.

Number of requests to empty Ash-pits in each Month for 5 Years.

MONTH.	1878	1879	1880	1881	1882
January	896	1,189	672	960	850
February	275	838	501	1,203	812
March	726	953	527	1,418	926
April	750	1,251	619	1,631	950
May	922	1,601	795	1,912	1,175
June	699	1,375	769	1,462	1,197
July	956	829	566	1,063	991
August	698	595	546	731	939
September	464	441	448	510	702
October	349	306	324	426	790
November	401	263	567	551	772
December	469	511	653	687	1,220
Totals	8,205	9,052	6,987	12,554	11,324





MORTALITY STATISTICS

For the Year ending December 31st, 1882.

MORTALITY STATISTICS

For the Year ending December 31st, 1882.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.	Total.
I.—Specific or Febrile Causes.													
<i>1.—Miasmatic Diseases.</i>													
Smallpox { Vaccinated .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
{ Unvaccinated .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
{ Unknown .. ..	..	..	..	..	1	..	..	..	..	..	..	..	1
Measles	31	138	22	..	..	..	..	..	..	..	..	..	191
Scarlet Fever (Scarlatina)	11	96	60	..	1	..	..	..	..	..	..	..	168
Diphtheria	3	10	5	..	..	..	..	..	..	..	..	..	18
Whooping Cough	41	61	4	..	..	..	..	..	..	..	..	..	106
Typhus Fever .. ..	..	2	2	10	5	5	3	6	1	..	..	..	34
Enteric or Typhoid Fever .. ..	..	3	5	14	9	6	1	2	2	..	..	..	42
Simple Continued and Ill-defined Fever .. ..	..	2	2	3	..	2	1	1	..	..	..	..	11
Other Miasmatic Diseases .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>2.—Diarrhæal Diseases.</i>													
Simple Cholera	1	1	1	..	..	..	..	1	..	..	..	..	4
Diarrhœa, Dysentery	92	23	2	..	2	2	1	..	3	..	..	..	125
<i>3.—Malarial Diseases.</i>													
Remittent Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ague .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>4.—Zoogenous Diseases.</i>													
Cowpox, Effects of Vaccination	1	..	..	..	..	..	..	..	..	..	..	..	1
Hydrophobia .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glanders .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Splenic Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>5.—Venereal Diseases.</i>													
Syphilis	12	5	..	1	..	..	1	2	..	..	..	..	21
Gonorrhœa, Stricture of Urethra .. ..	..	..	..	..	..	..	..	1	..	..	..	..	1
<i>6.—Septic Diseases.</i>													
Erysipelas	6	..	..	..	2	4	..	3	4	..	..	..	19
Pyæmia, Septicæmia .. ..	..	..	..	..	1	..	1	1	..	..	..	..	3
Puerperal Fever .. ..	..	..	..	3	2	1	..	..	..	..	..	..	6
II.—Parasitic Diseases.													
Thrush	1	..	..	..	..	..	..	..	..	..	..	..	1
Hydatids .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Animal Parasitical Diseases .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
III.—Dietic Diseases.													
Starvation, Want of Breast Milk	2	..	..	..	..	..	..	..	..	..	..	..	2
Scurvy .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic Alcoholism, Delirium Tremens .. ..	..	..	..	..	..	4	4	..	..	..	..	..	8
IV.—Constitutional Diseases.													
Rheumatic Fever and Rheumatism of the Heart .. ..	..	..	..	2	2	..	1	..	..	..	..	..	5
Rheumatism .. ..	..	..	..	..	..	..	3	1	2	..	..	..	6
Gout .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rickets .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cancer, Malignant Disease .. ..	..	..	..	..	5	9	7	21	11	3	1	..	57
Tabes Mesenterica	16	25	..	1	..	..	..	..	..	..	..	..	42
Tubercular Meningitis, Hydrocephalus	14	26	7	2	1	..	..	..	..	..	..	..	50
Phthisis	9	25	18	47	58	46	25	12	7	..	..	..	247
Other Tubercular & Scrofulous Diseases	17	17	3	6	2	..	..	1	..	..	..	..	46
Purpura, Hæmorrhagic Diathesis .. ..	..	..	..	..	..	..	1	..	..	..	..	..	1
Anæmia, Chlorosis, Leucocythæmia	2	2	..	..	..	..	..	1	..	..	..	..	5
Glycosuria, Diabetes Mellitus .. ..	..	..	..	..	1	2	..	1	..	..	..	..	4
Other Constitutional Diseases .. ..	..	1	..	..	..	..	..	..	..	..	..	..	1
Carried forward	259	487	131	89	91	82	49	52	32	3	1	0	1226

MORTALITY STATISTICS.—Continued.

CAUSE OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.	Total.
Brought forward	259	437	131	89	91	82	49	52	32	3	1	0	1226
V.—Developmental Diseases.													
Premature Birth	68	..	..	..	..	..	..	..	..	..	..	..	68
Atelectasis	3	..	..	..	..	..	..	..	..	..	..	..	3
Congenital Malformations	5	1	..	..	..	..	..	..	..	..	..	..	6
Old Age.. ..	..	..	..	..	..	..	..	4	30	54	9	..	97
VI.—Local Diseases.													
<i>1.—Diseases of Nervous System.</i>													
Inflammation of Brain or Membranes ..	32	49	15	1	..	2	1	..	..	..	..	..	100
Apoplexy .. ..	..	..	..	..	6	2	6	9	21	3	..	..	47
Softening of Brain .. ..	..	..	..	..	..	..	1	3	4	3	..	..	11
Hemiplegia .. ..	..	..	..	..	1	1	..	..	1	1	..	..	4
Brain Paralysis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Insanity, General Paralysis of the Insane ..	..	..	..	..	1	..	2	1	1	..	..	..	5
Epilepsy .. ..	..	3	1	2	3	3	1	..	..	..	..	..	13
Convulsions	132	27	4	2	1	..	..	..	1	..	..	..	167
Laryngismus Stridulus	2	..	..	..	..	..	..	..	..	..	..	..	2
Paralysis	1	..	..	..	..	1	9	19	22	8	..	..	60
Paraplegia .. ..	..	..	..	..	..	..	..	1	..	..	..	..	1
Diseases of Spinal Cord .. ..	..	1	..	1	..	1	..	..	1	..	..	..	4
Other Diseases of Nervous System ..	3	3	3	1	2	2	6	4	6	..	..	..	30
<i>2.—Diseases of Organs of Special Sense.</i>													
Ear, Diseases of .. ..	..	1	..	..	..	..	..	..	..	..	..	..	1
Eyes „	1	..	..	..	..	..	..	..	..	..	..	..	1
Nose „ .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>3.—Diseases of Circulatory System.</i>													
Endocarditis	1	..	..	..	..	1	1	..	..	..	..	..	3
Valvular Diseases of the Heart .. ..	..	..	..	..	..	7	3	1	2	..	..	..	13
Pericarditis .. ..	..	..	1	..	2	3	..	1	1	..	..	..	8
Other Diseases of Heart	1	..	5	5	13	17	22	25	33	5	3	..	129
Aneurism .. ..	..	..	..	..	..	1	..	..	..	..	..	..	1
Embolism, Thrombosis .. ..	..	..	..	..	..	1	..	..	..	..	..	..	1
Other Diseases of Blood Vessels.. ..	..	..	..	1	1	2	..	..	2	..	..	..	6
<i>4.—Diseases of Respiratory System.</i>													
Croup	1	30	1	..	..	..	..	..	..	..	..	..	32
Laryngitis	1	6	..	..	..	3	1	1	..	..	..	..	12
Bronchitis	79	49	2	2	4	8	27	29	31	15	2	1	249
Pneumonia	58	59	11	4	6	7	7	14	8	4	3	..	181
Broncho-Pneumonia	4	9	1	1	..	..	..	..	1	..	..	..	16
Pleuro-Pneumonia .. ..	..	..	..	..	..	..	1	..	..	..	..	..	1
Pleurisy .. ..	..	1	..	..	..	1	..	..	1	..	..	..	3
Emphysema .. ..	..	..	..	..	..	1	1	..	..	1	..	..	3
Asthma .. ..	..	..	..	1	1	..	1	..	3	..	..	..	6
Other Diseases of Respiratory System ..	7	8	3	..	1	3	5	2	1	1	..	..	31
<i>5.—Diseases of Digestive System.</i>													
Dentition	19	22	..	..	..	..	..	..	..	..	..	..	41
Sore Throat, Quinsey	2	..	..	..	..	..	..	..	..	..	..	..	2
Diseases of Stomach	1	..	1	1	..	3	4	2	..	1	..	..	13
Enteritis	3	1	2	1	..	4	..	2	2	..	..	..	15
Peritonitis	1	..	4	4	1	4	..	2	1	..	..	..	17
Obstructive Diseases of Intestine ..	3	..	1	4	1	1	3	6	..	1	..	..	20
Ascites .. ..	..	..	..	..	..	..	..	1	..	..	..	..	1
Cirrhosis of Liver .. ..	..	..	..	..	..	2	4	2	..	1	..	..	9
Other Diseases of Liver	4	1	1	2	3	2	6	5	5	..	..	..	29
Other Diseases of Digestive System ..	2	2	1	..	2	..	1	..	..	1	..	..	9
<i>6.—Diseases of Lymphatic System.</i>													
Lymphatics and of Spleen.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Carried forward	693	710	188	122	140	165	162	186	210	102	18	1	2697

MORTALITY STATISTICS.—Continued.

CAUSE OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards.	Total.
Brought forward	693	710	188	122	140	165	162	186	210	102	18	1	2697
VI.—Local Diseases—Continued.													
<i>7.—Diseases of Glandlike Organs of Uncertain Use.</i>													
Bronchocele .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Addison's Disease .. ..	..	..	..	..	..	..	..	1	..	..	..	..	1
<i>8.—Diseases of Urinary System.</i>													
Nephritis	1	3	4	..	2	3	2	4	4	..	..	..	23
Bright's Disease, Albuminuria .. ..	..	2	1	..	1	3	2	2	..	..	..	..	11
Disease of Bladder .. ..	..	..	..	..	..	..	..	3	1	..	..	..	4
„ Prostate .. ..	..	..	..	..	..	1	..	..	1	2	..	..	4
Other Diseases of the Urinary System ..	..	..	..	..	..	2	1	3	1	3	..	..	10
<i>9.—Diseases of Reproductive System.</i>													
Male Organs of Generation	1	..	..	..	..	..	..	..	..	..	..	..	1
Female Organs „ .. ..	..	1	..	3	6	1	1	..	..	..	..	..	12
Abortion, Miscarriage .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Convulsions .. ..	..	..	..	..	..	1	..	..	..	..	..	..	1
Placenta Prævia, Flooding .. ..	..	..	..	..	1	3	..	..	..	..	..	..	4
Other Accidents of Child Birth .. ..	..	..	..	..	2	5	1	..	..	..	..	..	8
<i>10.—Diseases of Locomotive System.</i>													
Caries, Necrosis .. ..	..	..	1	1	..	..	..	1	..	..	..	..	3
Arthritis, Ostitis, Periostitis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases of Locomotive System ..	2	1	1	..	1	1	..	1	..	1	..	..	8
<i>11.—Diseases of Integumentary System.</i>													
Carbuncle .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Phlegmon .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cellulitis .. ..	..	..	..	1	..	..	..	..	..	..	..	..	1
Other Diseases of Integumentary System ..	1	..	1	..	1	..	..	1	..	..	..	..	4
VII.—Violence.													
Accident or Negligence .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fracture and Contusion .. ..	..	7	4	11	6	7	7	3	..	1	1	..	47
Gunshot Wound .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cut, Stab .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Burn and Scald .. ..	..	2	4	..	..	..	..	..	..	..	..	..	6
Poison .. ..	..	..	..	..	..	1	1	..	..	..	..	..	2
Drowning .. ..	..	..	1	1	4	3	1	..	..	..	..	..	10
Suffocation	6	1	..	1	..	..	..	..	..	..	..	..	8
Otherwise .. ..	..	3	..	1	2	1	2	..	1	..	..	..	10
Homicide { Manslaughter .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
{ Murder	1	..	..	..	..	..	1	..	..	..	..	..	2
Suicide .. ..	..	..	..	..	..	3	1	1	..	..	..	..	5
VIII.—Deaths from Ill-defined Causes.													
Dropsy	4	2	1	..	..	..	..	..	..	..	..	..	7
Debility	93	3	..	..	..	..	..	..	..	1	..	..	97
Marasmus and Atrophy	77	30	3	..	..	..	..	..	..	..	..	..	110
Inanition	19	..	..	..	..	..	..	..	..	..	..	..	19
Sudden Death	2	..	1	..	..	1	..	..	1	..	..	..	5
Other causes not specified or ill-defined	4	5	..	2	1	2	7	3	..	2	..	..	26
TOTAL	904	770	210	143	167	203	189	209	219	112	19	1	3146

CAUSES OF DEATH
IN THE DISTRICTS,

For the Year ending December 31st, 1882.

CAUSES OF DEATH

For the Year ending December 31st, 1882.

CAUSE OF DEATH.	Sunderland East			Sunderland West.			Bishopwth North.			Bishopwth South.			Monkwearmouth.		
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.
I.—Specific or Febrile Causes.															
1.— <i>Miasmatic Diseases.</i>															
Smallpox { Vaccinated
{ Unvaccinated
{ Unknown	1	..	..	..	..	..	..
Measles	8	35	3	3	21	3	9	25	3	7	25	2	4	32	11
Scarlet Fever (Scarlatina)	13	7	..	5	3	3	18	10	2	26	16	6	34	25
Diphtheria	1	..	..	..	..	1	4	1	1	3	2	1	2	2
Whooping Cough	2	5	..	2	4	1	9	15	..	9	6	..	19	31	3
Typhus Fever	5	..	..	21	..	1	5	..	1	1
Enteric or Typhoid Fever	3	..	..	..	..	1	18	..	..	11	..	2	7
Simple Continued and Ill-defined Fever	1	..	..	..	..	1	1	..	..	5	..	1	2
Other Miasmatic Diseases
2.— <i>Diarrhæal Diseases.</i>															
Simple Cholera	1	1	1	1
Diarrhœa, Dysentery	5	1	..	3	1	1	30	8	3	28	6	3	26	7	3
3.— <i>Malarial Diseases.</i>															
Remittent Fever
Ague
4.— <i>Zoogenous Diseases.</i>															
Cowpox, Effects of Vaccination	1	..	..
Hydrophobia
Glanders
Splenic Fever
5.— <i>Venereal Diseases.</i>															
Syphilis	1	8	3	2	..	2	..	4	..	1
Gonorrhœa, Stricture of Urethra	1
6.— <i>Septic Diseases.</i>															
Erysipelas	1	..	..	..	3	..	4	1	..	6	2	..	2
Pyæmia, Septicæmia	2	..	..	..	..	..	1
Puerperal Fever	1	..	..	5
II.—Parasitic Diseases.															
Thrush	1	..	..	..	..	..
Hydatids
Other Animal Parasitical Diseases
III.—Dietic Diseases.															
Starvation, Want of Breast Milk	1	..	..	1	..	..
Scurvy
Chronic Alcoholism, Delirium Tremens	2	..	..	1	..	..	2	..	..	3
IV.—Constitutional Diseases.															
Rheumatic Fever and Rheumatism of the Heart	3	..	..	2
Rheumatism	1	..	..	..	..	..	1	..	..	3	..	..	1
Gout
Rickets
Cancer, Malignant Disease	2	..	..	..	..	..	20	..	..	21	..	..	14
Tabes Mesenterica	1	..	..	3	..	5	8	..	4	8	..	7	5	1
Tubercular Meningitis, Hydrocephalus	3	1	1	..	..	7	10	3	4	7	2	2	6	4
Phthisis	12	..	2	9	5	12	91	1	6	55	3	5	46
Other Tubercular & Scrofulous Diseases	5	5	2	5	4	1	..	4	..	4	2	4	3	2	5
Purpura, Hæmorrhagic Diathesis	1	..	..	..
Anæmia, Chlorosis, Leucocythæmia	1	..	..	..	1	1	..	1	1	..	..	..	..
Glycosuria, Diabetes Mellitus	1	..	..	2	..	..	1
Other Constitutional Diseases	1	..	..	..	..
Carried forward	20	64	34	14	40	26	81	110	182	64	94	145	80	129	142

CAUSES OF DEATH.--Continued.

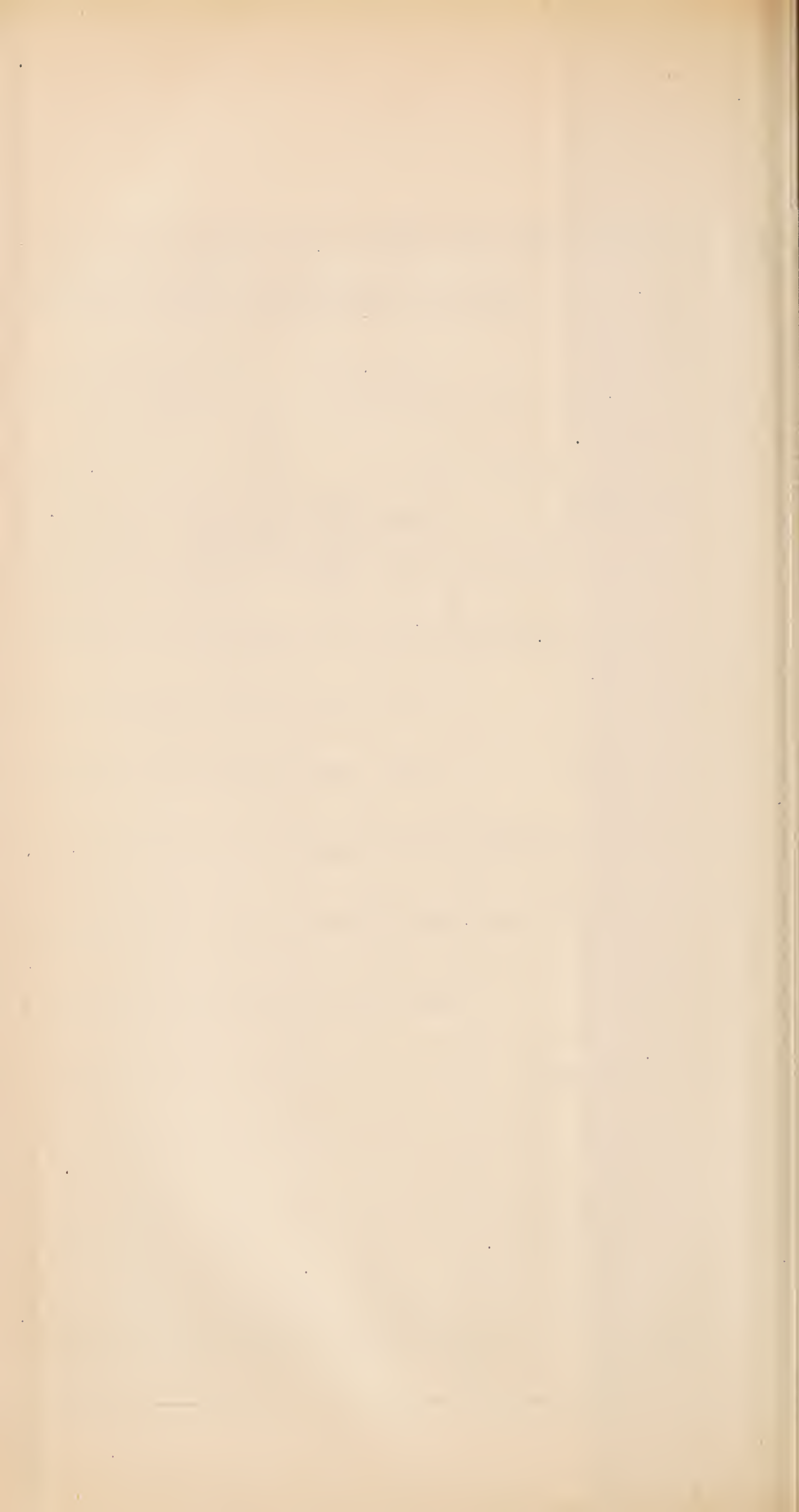
CAUSE OF DEATH.	Sunderland East.			Sunderland West.			Bishopwth North.			Bishopwth South.			Monkwear-mouth.		
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.
Brought forward	20	64	34	14	40	26	81	110	182	64	94	145	80	129	142
V.—Developmental Diseases.															
Premature Birth	5	..	..	4	..	..	18	..	..	22	..	..	19	..	..
Atelectasis	1	..	..	2	..	..
Congenital Malformations	1	..	..	2	..	..	1	1	..	1	..	..
Old Age..	6	..	..	3	..	..	38	..	22	..	..	..	28
VI.—Local Diseases.															
1.—Diseases of Nervous System.															
Inflammation of Brain or Membranes ..	2	7	1	1	2	1	8	14	7	15	16	7	6	10	3
Apoplexy	6	..	..	1	..	..	19	..	..	15	..	..	6
Softening of Brain	5	..	..	3	..	..	3
Hemiplegia	1	..	..	..	..	..	2	..	..	1	..	..	..
Brain Paralysis
Insanity, General Paralysis of the Insane	1	..	..	3	..	..	1
Epilepsy	1	..	1	5	..	1	2	..	1	2
Convulsions	7	4	..	8	5	1	39	5	2	33	8	2	45	5	3
Laryngismus Stridulus	1	..	..	..	..	..	1	..	..
Paralysis	1	..	..	..	..	..	32	..	..	18	1	..	8
Paraplegia	1	..	..	..
Diseases of Spinal Cord	1	..	..	..	..	..	..	..	1	2	..	..	..
Other Diseases of Nervous System	2	..	..	1	1	1	7	..	..	9	2	1	6
2.—Diseases of Organs of Special Sense.															
Ear, Diseases of	1	..
Eyes	1	..	..	..	..	..	..	..	..	..	..	..
Nose
3.—Diseases of Circulatory System.															
Endocarditis	1	1	..	1	..	..	..
Valvular Diseases of the Heart	1	..	..	2	..	..	5	..	..	2	..	..	3
Pericarditis	3	..	..	..	..	..	2	..	..	3	..	..	..
Other Diseases of the Heart	10	..	..	8	1	..	38	..	..	44	..	..	28
Aneurism	1
Embolism, Thrombosis	1	..	..	..
Other Diseases of Blood Vessels	1	..	..	1	..	..	..	..	..	2	..	..	2
4.—Diseases of Respiratory System.															
Croup	3	..	1	3	..	..	5	..	..	13	1	..	6	..
Laryngitis	1	1	1	..	1	1	..	1	2	..	3	..	..	..	1
Bronchitis	13	13	25	12	10	16	15	6	31	25	12	34	14	8	15
Pneumonia	11	13	1	6	8	8	12	9	18	25	21	28	4	8	9
Broncho-Pneumonia..	1	4	3	2	2	..	1	3	..
Pleuro-Pneumonia	1	..	..	..
Pleurisy	1	..	..	..	1	..	..	..	..	..	1
Emphysema	1	..	..	..	..	..	2	..	..	..	..	..	..
Asthma	1	..	..	1	..	..	2	..	..	2
Other Diseases of Respiratory System	2	3	3	5	3	4	7	1	1	2
5.—Diseases of Digestive System.															
Dentition	3	1	..	..	2	..	5	10	..	4	6	..	7	3	..
Sore Throat, Quinsey	2	2	..	4	1	..	2	..	..	1
Diseases of Stomach	3	..	..	..	..	..	..	..	..	..	..	..	..
Enteritis	4	..	..	..	2	1	1	..	..	4	1	..	2
Peritonitis	1	..	..	2	1	..	2	..	..	8	..	..	3
Obstructive Diseases of Intestine	1	..	4	..	..	10	2	..	3
Ascites	1
Cirrhosis of Liver	6	..	..	3	..	..	..
Other Diseases of Liver	1	..	4	..	..	1	..	..	5	1	1	10	2	..	4
Other Diseases of Digestive System	1	1	2	1	1	3	..	..	..
6.—Diseases of Lymphatic System.															
Lymphatics and of Spleen
Carried forward	63	106	107	48	72	78	194	171	433	199	184	396	189	176	280

CAUSES OF DEATH.—Continued.

CAUSE OF DEATH.	Sunderland East.			Sunderland West.			Bishopwth North.			Bishopwth South.			Monkwear mouth.		
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.
Brought forward	63	106	107	48	72	78	194	171	433	199	184	396	189	176	28
VI.—Local Diseases—Continued.															
<i>7.—Diseases of Glandlike Organs of Uncertain Use.</i>															
Bronchocele	1	..	..	..	..	..	..	..	..	..
Addison's Disease	1	..	..	..	..	..	..	..	..	..
<i>8.—Diseases of Urinary System.</i>															
Nephritis	1	3	1	..	3	..	1	5	..	1	5	..	..	..
Bright's Disease, Albuminuria	1	..	..	..	..	1	1	..	..	4	..	1	..
Disease of Bladder	4	..	..	..
„ Prostate	1	..	..	..	..	..	1	..	..	2	..	..	..
Other Diseases of the Urinary System	1	..	..	3	..	..	3	..	..	..
<i>9.—Diseases of Reproductive System.</i>															
Male Organs of Generation	1	..	..	..	..	..
Female Organs „	1	..	..	..	..	..	..	2	..	..	6	..	..	..
Abortion, Miscarriage
Puerperal Convulsions
Placenta Prævia, Flooding..	1	..	..	1	..	..	..
Other Accidents of Child Birth	1	..	..	1	..	..	3	..	..	..
<i>10.—Diseases of Locomotive System.</i>															
Caries, Necrosis	1	..	..	1	..	..	..	..	..	..
Anthritis, Ostitis, Periostitis
Other Diseases of Locomotive System	1	1	2	1	..	..	..	..	..
<i>11.—Diseases of Integumentary System.</i>															
Carbuncle
Phlegmon
Cellulitis	1	..	..	..	..	..	..
Other Diseases of Integumentary System	1	..	1	..	..	..	..	..	1	..	..	1	..	..	..
VII.—Violence.															
Accident or Negligence	3	22	..	1	..
Fracture and Contusion	1	4	..	..	2	..	2	8	..	..	..	..	..	..
Gunshot Wound
Cut, Stab
Burn and Scald	2	1	..	..	..
Poison	1	..	..	1	..	..	..	..	..	..
Drowning	3	..	..	2	..	..	3	..	..	..
Suffocation	3	..	..	1	1	1	2	..	..
Otherwise	1	..	..	2	..	2	..	..	1	2	..	..	..
Homicide { Manslaughter
„ { Murder	1	..	1	..	..	..	..	..	..
Suicide..	2	..	..	1	..	..	..
VIII.—Deaths from Ill-defined Causes.															
Dropsy	1	..	..	2	1	..	1	1	1	..	..	..
Debility	12	1	..	6	..	..	34	1	..	32	..	1	9	1	..
Marasmus and Atrophy	6	2	1	4	4	..	16	15	..	27	4	..	24	5	..
Inanition	1	..	..	2	..	..	8	..	..	3	..	..	5	..	..
Sudden Death..	1	..	..	1	..	..	..
Other causes not specified or ill-defined	2	2	..	1	1	2	2	2	2	1	5	..	1	..
TOTAL	83	113	121	62	77	94	261	197	469	267	198	463	231	185	32

(A) TABLE OF DEATHS in the Urban Sanitary District of Sunderland, classified according to Diseases and Ages ; and showing also the Population and the BIRTHS therein during the Year ending December 31st, 1882.

DISTRICTS.	POPULATION		Registered Births.	MORTALITY FROM ALL CAUSES							MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS IN PERSONS UNDER FIVE YEARS OF AGE.																					
	AT ALL AGES.			AT SUBJOINED AGES.																												
	Census, 1881.	Esti- mated to middle of 1882.		At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards	Smallpox.	Measles.	Scarlatina.	Diphtheria.	Croup (not spasmodic).	Whooping Cough	Continued Fevers.			Diarrhoea and Dysentery.	Cholera.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	Ague.	Phthisis.	Bronchitis, and Pneumonia, Pleurisy.	Heart Disease.	Injuries.		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	
SUNDERLAND EAST - - - -	9,298	9,298	345	317	83	113	17	6	56	42	Under 5	—	43	13	1	3	7	—	—	—	6	—	—	—	—	—	—	—	—	50	—	1
.....	5 upwds.	—	3	7	—	—	—	—	3	1	—	—	—	1	—	—	—	—	12	26	10	5
SUNDERLAND WEST - - - -	5,993	5,993	237	231	62	77	12	5	61	14	Under 5	—	24	5	—	4	6	—	—	—	4	—	—	—	—	—	—	—	2	37	—	—
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 upwds.	—	3	3	—	—	1	5	—	—	1	—	—	—	—	—	—	9	24	8	8
BISHOPWEARMOUTH NORTH	35,908	36,842	1586	770	256	195	49	26	154	90	Under 5	—	34	21	5	4	24	—	1	1	38	—	—	3	—	—	—	—	17	42	1	8
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 upwds.	1	3	9	—	—	—	4	11	1	3	—	—	2	2	—	—	72	32	35	12
BISHOPWEARMOUTH SOUTH	38,969	39,904	1533	884	267	193	52	47	172	153	Under 5	—	32	28	4	13	15	1	—	—	34	—	—	1	—	—	—	7	83	—	3	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 upwds.	—	2	16	2	1	—	5	9	5	3	1	3	6	—	1	—	52	60	41	14
MONKWEARMOUTH - - - -	26,094	27,028	1188	741	231	185	76	35	124	90	Under 5	—	36	40	3	6	50	1	2	1	33	—	—	2	—	—	—	8	34	—	3	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 upwds.	—	11	25	2	—	3	1	7	2	3	1	2	2	1	5	—	46	25	28	10
Public Institutions. {	HOUSE OF RECOVERY - -	—	—	—	9	—	—	1	4	4	Under 5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 upwds.	—	—	1	—	—	—	1	6	—	—	—	—	1	—	—	—	—	—	—	—
	THE INFIRMARY - - - -	—	—	—	45	—	5	2	7	29	Under 5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 upwds.	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	3	3	3	15
	WORKHOUSE HOSPITALS -	—	—	—	149	5	2	1	13	54	74	Under 5	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 upwds.	—	—	—	—	—	—	16	1	—	—	—	—	1	—	—	—	19	17	3	1
Total - - - - -	116,262	119,065	4889	3146	904	770	210	143	654	465	Under 5	—	169	107	13	31	102	2	3	2	115	—	—	6	—	—	—	34	246	1	20	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 upwds.	1	22	61	5	1	4	32	39	9	10	2	5	13	3	6	—	213	187	128	65



(B) TABLE OF NEW CASES OF SICKNESS, coming to the knowledge of the Medical Officer of Health, during the Year 1882, in the Urban Sanitary District of Sunderland, classified according to Localities and Diseases.

NAMES OF LOCALITIES.	NEW CASES OF SICKNESS IN PERSONS BELONGING TO THE DISTRICT, DISTINGUISHING THOSE IN CHILDREN UNDER FIVE YEARS OF AGE.																		
	12.	13.	14.	15.	16.	17.	18.	Continued Fevers.			22.	23.	24.	25.	26.	27.	28.	Other Diseases, such as Chicken Pox, or Pneumonia, which the Medical Officer of Health thinks well to record.	
								Typhus.	Enteric or Typhoid.	Other or Doubtful.									
19.	20.	21.																	
1. SUNDERLAND EAST	Under 5	..	105	13	..	1	2	..	..	1	12	..	..	..	..	..	..	..
.....	5 upwds.	..	42	11	..	..	..	4	..	5	2	..	..	1	..	..	..	..
2. SUNDERLAND WEST.....	Under 5	..	18	5	..	..	1	2	..	..	16	..	..	..	..	..	..	..
.....	5 upwds.	1	20	14	..	..	2	14	3	1	6	..	..	1	..	..	..	..
3. BISHOPWEARMOUTH NORTH	Under 5	..	25	19	1	3	19	..	4	..	30	..	..	..	..	..	..	..
.....	5 upwds.	..	27	56	1	..	5	6	12	6	16	..	5	1	..	..	..	..
4. BISHOPWEARMOUTH SOUTH	Under 5	..	51	24	1	..	25	1	..	1	21	..	..	..	..	..	..	..
.....	5 upwds.	1	52	48	2	..	4	26	7	..	12	..	2	2	..	..	..	..
5. MONKWEARMOUTH	Under 5	1	25	20	1	1	28	..	2	..	20	..	..	..	..	..	..	..
.....	5 upwds.	4	24	51	3	..	5	39	9	..	8	..	1	..	..	..	..	..
Totals	Under 5	1	224	81	3	5	75	3	6	2	99	..	..	..	..	..	..	..
.....	5 upwds.	6	165	180	6	..	16	89	31	12	44	..	8	5	..	..	..	..

METEOROLOGICAL AND DISEASE CHART FOR 1882.

Average for week ending
JAN. FEB. MAR. APL. MAY. JNE. JLY. AUG. SEP. OCT. NOV. DEC.

